

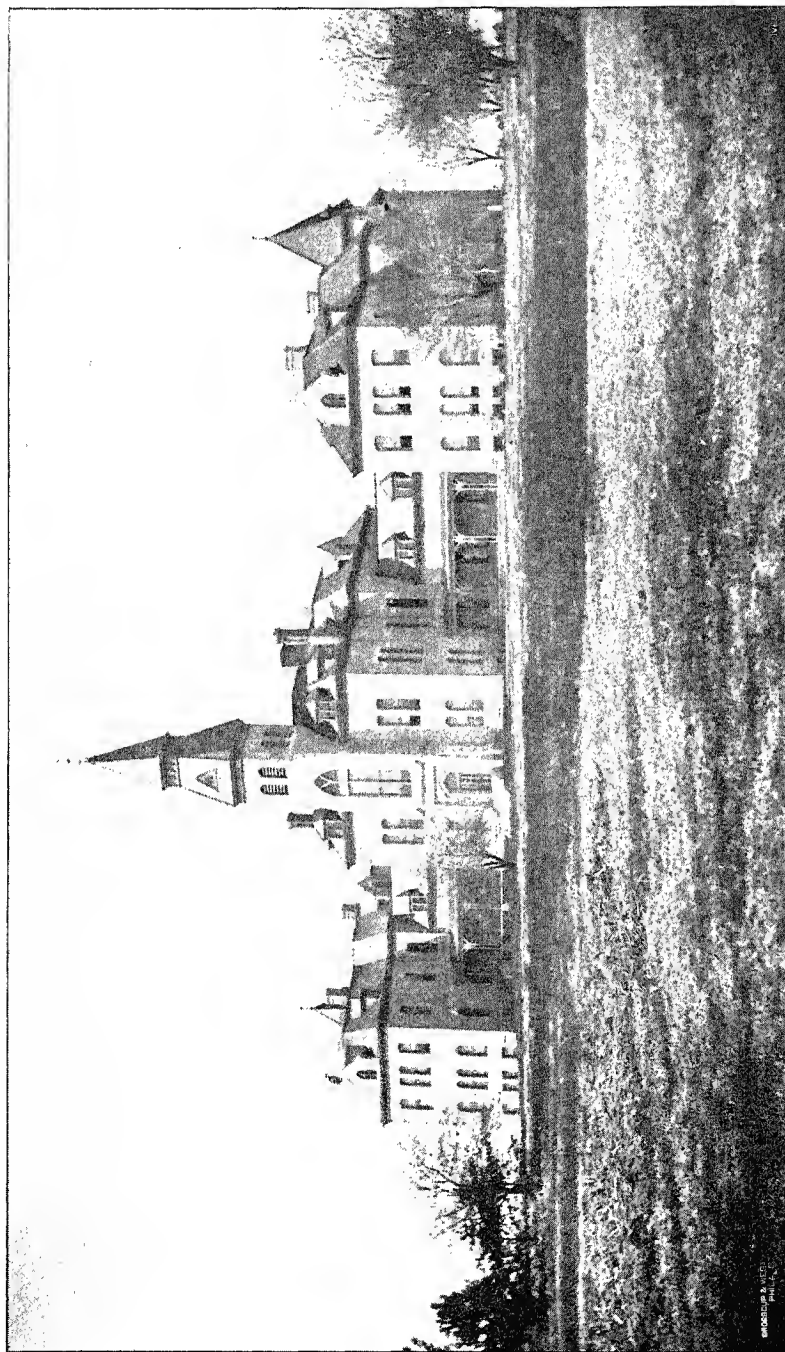
Kanſas  
State Agricultural College.

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Catalogue, 1890-91.







KANSAS STATE AGRICULTURAL COLLEGE. (Main Building.)





KANSAS STATE AGRICULTURAL COLLEGE, MANASSA, WIS.

TWENTY-EIGHTH ANNUAL CATALOGUE

OF THE

OFFICERS, STUDENTS AND GRADUATES

OF THE

STATE AGRICULTURAL COLLEGE

OF KANSAS.

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1890-91.

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MANHATTAN, KANSAS.

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TOPEKA.

KANSAS PUBLISHING HOUSE: OLIFFORD C. BAKER, STATE PRINTER.  
1891.

## Terms and Vacations.

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### FALL TERM, 1891.

WEDNESDAY, SEPTEMBER 9.—Examination for admission, at 9 A. M.  
THURSDAY, SEPTEMBER 10.—College year begins.  
FRIDAY, OCTOBER 23.—Examination.  
FRIDAY, DECEMBER 4.—Annual Exhibition of the Alpha Beta Society.  
THURSDAY AND FRIDAY, DECEMBER 17 AND 18.—Examination at close of Fall Term.  
DECEMBER 19 TO JANUARY 4.—Winter Vacation.

### WINTER TERM, 1892.

MONDAY, JANUARY 4.—Examination for admission, at 9 A. M.  
TUESDAY, JANUARY 5.—Winter Term begins.  
SATURDAY, JANUARY 30.—Annual Exhibition of the Hamilton Society.  
FRIDAY, FEBRUARY 5.—Examination.  
FRIDAY, MARCH 11.—Annual Exhibition of the Webster Society.  
THURSDAY AND FRIDAY, MARCH 24 AND 25.—Examination at close of Winter Term.

### SPRING TERM, 1892.

MONDAY, MARCH 28.—Spring Term begins.  
FRIDAY, APRIL 22.—Annual Exhibition of the Ionian Society.  
FRIDAY, APRIL 29.—Examination.  
MONDAY AND TUESDAY, JUNE 6 AND 7.—Examination at close of year.  
JUNE 5 TO 8.—Exercises of Commencement Week.  
WEDNESDAY, JUNE 8, 10 A. M.—Commencement.  
JUNE 9 TO SEPTEMBER 7.—Summer Vacation.

### FALL TERM, 1892.

WEDNESDAY, SEPTEMBER 7.—Examination for Admission, at 9 A. M.  
THURSDAY, SEPTEMBER 8.—College year begins.



## Board of Regents.

---

HON. MORGAN CARAWAY, (1892,)\* *President*,  
Great Bend, Barton Co.

HON. R. W. FINLEY, (1893,) *Vice President*,  
Goodland, Sherman Co.

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Manhattan, Riley Co.

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HON. JOSHUA WHEELER, (1894,) Nortonville, Jefferson Co.

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Manhattan.

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I. D. GRAHAM, *Assistant Secretary*, Manhattan.

\*Term expires.

## Board of Instruction.

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GEORGE T. FAIRCHILD, A. M., PRESIDENT,  
*Professor of Logic and Political Economy.*

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*Professor of Music.*

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NELSON S. MAYO, D. V. S., M. Sc.,  
*Instructor in Physiology and Veterinary Science.*

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JENNIE C. TUNNELL, B. Sc., *Assistant Librarian.*

JULIA R. PEARCE, B. Sc., *Clerk in Executive Office.*

WILLIAM BAXTER, *Foreman of Greenhouse.*

CHARLES A. GUNDAKER, *Foreman of Blacksmith Shop.*

WILLIAM L. HOUSE, *Foreman of Carpenter Shop.*

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BERTHA H. BACHELLER, B. Sc., *English and Mathematics.*

ELIZA A. LITTLE, B. Sc., *Sewing and Music.*

EMMA A. ALLEN, B. Sc., *Experiment Station, (Botany.)*

FRANCIS C. BURTIS, *Agriculture.*

PHIL S. CREAGER, *Horticulture.*

SAM L. VAN BLARCOM, *Horticulture.*

GEORGE W. WILDIN, *Woodwork, Carpenter Shop, and Surveying.*

FRANK A. WAUGH, *Horticulture and Mathematics.*

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ANDREW C. MCCREARY, *Janitor.*

## Experiment Station.

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### COUNCIL.

---

PRESIDENT FAIRCHILD, *Chairman, ex officio.*

PROFESSOR FAIRYER, *Chemistry.*

PROFESSOR POPENOE, *Horticulture and Entomology.*

PROFESSOR KELLERMAN, *Botany.*

PROFESSOR GEORGESON, *Agriculture.*

DOCTOR MAYO, *Veterinary Science.*

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I. D. GRAHAM, *Secretary.*

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### ASSISTANTS AND FOREMEN.

---

J. T. WILLARD, M.Sc., *Chemistry.*

S. C. MASON, B.Sc., *Horticulture, Foreman of Gardens.*

F. A. MARLATT, B.Sc., *Entomology.*

W. T. SWINGLE, B.Sc., *Botany.\**

H. M. COTTELL, M.Sc., *Agriculture.*

WM. SHELTON, *Foreman of the Farm.*

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\*Resigned, May 1, 1891.

# Students.

## POST-GRADUATES.

### RESIDENT.

Emma Agnes Allen, '89, *Physics, Botany and Designing*, Manhattan, Riley.  
 Bertha Helena Bacheller, '88, *Chemistry and Domestic Economy*, Lyons, Rice.  
 Lilla A. Harkins, ('90, South Dakota), *Domestic Economy*, Brookings, South Dakota.  
 Harriet Eusebia Knipe, '90, *Domestic Economy*, Manhattan, Riley.  
 Albert Barney Kimball, '89, *Botany and Horticulture*, Manhattan, Riley.  
 Bertha Sarah Kimball, '90, *Entomology and Horticulture*, Manhattan, Riley.  
 Eliza Ada Little, '86, *Literature and History*, Manhattan, Riley.  
 Harry Nickels Whitford, '90, *English and History*, Manhattan, Riley.

### NON-RESIDENT.

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 David Grandison Fairchild, '88, *Botany and Horticulture*, Washington, D. C.  
 Clarence E. Freeman, '89, *Physics and Engineering*, Topeka, Shawnee.  
 Walter Herbert Olin, '89, *Agriculture and Botany*, Waverly, Coffey.

## FOURTH YEAR.

William Aaron Anderson,	Leonardville, Riley.
William Sherman Arbuthnot,	Cuba, Republic.
Herman Willard Avery,	Wakefield, Clay.
Judd Noble Bridgman,	Atchison, Atchison.
Robert James Brock,	Centralia, Nemaha.
Francis Charles Burtis,	Manhattan, Riley.
Charles Albert Campbell,	Manhattan, Riley.
Spencer Norman Chaffee,	Green, Clay.
Ephraim Clay Coburn,	Kansas City, Wyandotte.
Gertrude Coburn,	Kansas City, Wyandotte.
Tina Louise Coburn,	Kansas City, Wyandotte.
Rachel Callie Conwell,	Manhattan, Riley.
Christin Mossman Corlett,	Guthrie, Oklahoma.
Mary Emmeline Cottrell,	Wabaunsee, Wabaunsee.
Phil Sheridan Creager,	Jamestown, Cloud.
Kary Cadmus Davis,	Junction City, Geary.

Thomas Clarke Davis, . . . .	Benedict, Wilson.
Helen Pearl Dow, . . . .	Manhattan, Riley.
Anna Della Fairchild, . . . .	Manhattan, Riley.
Harry Benson Gilstrap, . . . .	Arkansas City, Cowley.
Almon Arthur Gist, . . . .	Manhattan, Riley.
Amy Myrtle Harrington, . . . .	Junction City, Geary.
Delpha May Hoop, . . . .	Manhattan, Riley.
Mayme Amelia Houghton, . . . .	Manhattan, Riley.
Willis Wesley Hutto, . . . .	Manhattan, Riley.
George Victor Johnson, . . . .	Cedar Vale, Cowley.
Frank Mullett Linscott, . . . .	Holton, Jackson.
Bessie Belle Little, . . . .	Manhattan, Riley.
Albert Edwin Martin, . . . .	Atchison, Atchison.
Nellie Evangeline McDonald, . . . .	Manhattan, Riley.
David Collins McDowell, . . . .	Manhattan, Riley.
Alfred Midgley, . . . .	Minneapolis, Ottawa.
Madeleine Wade Milner, . . . .	Manhattan, Riley.
Paul Chambers Milner, . . . .	Manhattan, Riley.
Harry Elbridge Moore, . . . .	North Topeka, Shawnee.
John Otis Morse, . . . .	Mound City, Linn.
Hattie May Noyes, . . . .	Wabaunsee, Wabaunsee.
Louise Reed, . . . .	St. Clere, Pottawatomie.
Artemus Jackson Rndy, . . . .	Butler, <i>Missouri</i> .
Henry Vernon Rudy, . . . .	Butler, <i>Missouri</i> .
Lottie Jane Short, . . . .	Blue Rapids, Marshall.
Ben Skinner, . . . .	Fairview, Brown.
Caroline Soott Stingley, . . . .	Manhattan, Riley.
Lillian Alice St. John, . . . .	Manhattan, Riley.
Ellis Cheney Thayer, . . . .	Maple Hill, Wabaunsee.
Sam L. Van Blaroom, . . . .	McPherson, McPherson.
Frank Albert Waugh, . . . .	McPherson, McPherson.
Fannie Elizabeth Waugh, . . . .	McPherson, McPherson.
Flora Emilie Wiest, . . . .	Manhattan, Riley.
George Washington Wildin, . . . .	Melvorn, Osage.
Bertha Winchip, . . . .	Manhattan, Riley.
Alfred Orin Wright, . . . .	Manhattan, Riley.
Effie Jeannetta Zimmerman, . . . .	Troy, Doniphan.

## THIRD YEAR.

Herbert F. Avery, . . . .	Wakefield, Clay.
George A. Browning, . . . .	Manhattan, Riley.
Edwin Ransom Burtis, . . . .	Manhattan, Riley.
Grace Maria Clark, . . . .	Junction City, Geary.
George Lemon Clothier, . . . .	Paxico, Wabaunsee.
Henry Cowain Cobb, . . . .	Muscogee, <i>Indian Territory</i> .
Lilian Clyde Criner, . . . .	Monndridge, McPherson.
Evered Woodard Curtis, . . . .	Council Grove, Morris.

Harry Darnell, . . . . .	Ward, Wilson.
William H. Edelblute, . . . . .	Keats, Riley.
Elizabeth Edwards, . . . . .	Abergele, <i>Wales</i> .
Lucy Ellis, . . . . .	Havensville, Pottawatomie.
John Frost, . . . . .	Blue Rapids, Marshall.
Effie Gilstrap, . . . . .	Arkansas City, Cowley.
Ava Hamill, . . . . .	Olathe, Johnson.
J N Harner, . . . . .	Green, Clay.
Loyal S. Harner, . . . . .	Leonardville, Riley.
Charles Pinckney Hartley, . . . . .	Manhattan, Riley.
John William Abraham Hartley, . . . . .	Manhattan, Riley.
Robert Clayton Hunter, . . . . .	Manhattan, Riley.
Charles Augustus Kimball, . . . . .	Manhattan, Riley.
Fred Swift Little, . . . . .	Manhattan, Riley.
Samuel Coleman McAdams, . . . . .	Rossville, Shawnee.
James Laird McDowell, . . . . .	Manhattan, Riley.
Robert Andrew McIlvaine, . . . . .	Maryville, <i>Tennessee</i> .
George Laine Melton, . . . . .	Silver Dale, Cowley.
Ernest Stewart Mudge, . . . . .	Eskridge, Wabaunsee.
Susie Amanda Noyes, . . . . .	Wabaunsee, Wabaunsee.
Kate Oldham, . . . . .	Keats, Riley.
Daniel Henry Otis, . . . . .	Topeka, Shawnee.
Ivan Bryan Parker, . . . . .	Hill City, Graham.
Charles John Peterson, . . . . .	Randolph, Riley.
Warner S. Pope, . . . . .	Cawker City, Mitchell.
Burton Homer Pugh, . . . . .	Topeka, Shawnee.
Elias W. Reed, . . . . .	St. Clere, Pottawatomie.
Robert Stirling Reed, . . . . .	Cedar Point, Chase.
Arthur Daniel Rice, . . . . .	Manhattan, Riley.
Birdie E. Secrest, . . . . .	Randolph, Riley.
May Secrest, . . . . .	Randolph, Riley.
Letus S. Strickler, . . . . .	Albuquerque, <i>New Mexico</i> .
John Eugene Thackrey, . . . . .	Manhattan, Riley.
Walter James Town, . . . . .	Topeka, Shawnee.
Walter Percival Tucker, . . . . .	Douglass, Butler.
Mary Alice Vail, . . . . .	Detroit, Dickinson.
Robert Lynn Wallis, . . . . .	Williamsburg, Franklin.
Ora Rebecca Wells, . . . . .	Irving, Marshall.
Maude E. Whitney, . . . . .	Manhattan, Riley.
Daniel F. Wickman, . . . . .	Topeka, Shawnee.
Charles Ernest Yeoman, . . . . .	La Crosse, Rush.
Isaac Martin Zimmerman, . . . . .	Troy, Doniphan.

SECOND YEAR.

Clarence Abbott, . . . . .	Garden City, Finney.
Edward Jones Abell, . . . . .	Leonardville, Riley.
Walter Truman Allen, . . . . .	Manhattan, Riley.

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Alice Elnora Allingham, . . . . .	Manhattan, Riley.
Edith Etta Allman, . . . . .	Manhattan, Riley.
Harry Houston Ashbrook, . . . . .	Manhattan, Riley.
Inis Florence Avery, . . . . .	Milford, Geary.
Orville C. Artell, . . . . .	Sterling, Rice.
Fred Ward Ayres, . . . . .	Emporia, Lyon.
Sarah M. Bayles, . . . . .	Manhattan, Riley.
Nora Baxter, . . . . .	Marysville, Pottawatomie.
Eben M. Blachly, . . . . .	Leonardville, Riley.
Maggie Fay Blythe, . . . . .	Keats, Riley.
John Frank Borden, . . . . .	Loring, Wyandotte.
Joe William Brooks, . . . . .	Manhattan, Riley.
William Brown, . . . . .	Leavenworth, Leavenworth.
Archie Campbell, . . . . .	Manhattan, Riley.
Margaret Murphia Campbell, . . . . .	Wall Street, Linn.
Martha Dean Campbell, . . . . .	Wall Street, Linn.
Ruth I. Carnahan, . . . . .	Stockdale, Riley.
Robert Abraham Clarke, . . . . .	Burlington, Coffey.
Mabel Catherine Cornell, . . . . .	Alma, Wabaunsee.
Martha Amelia Cottrell, . . . . .	Wabaunsee, Wabaunsee.
*Carl Crump, . . . . .	Manhattan, Riley.
Edwin McMaster Stanton Curtis, . . . . .	Council Grove, Morris.
Corinne Louise Daly, . . . . .	Smith Center, Smith.
Lucy Davidson, . . . . .	Agricola, Coffey.
David Thomas Davies, . . . . .	Manhattan, Riley.
Laura Greeley Day, . . . . .	Manhattan, Riley.
Ione Dewey, . . . . .	Mound City, Linn.
Albert Dickens, . . . . .	Alden, Rice.
Luther M. Dickson, . . . . .	Edgerton, Johnson.
Viola Grace Dille, . . . . .	Edgerton, Johnson.
Walter Scott Dille, . . . . .	Edgerton, Johnson.
Clara Belle Dorman, . . . . .	Wabaunsee, Wabaunsee.
James Edward Dorman, . . . . .	Wabaunsee, Wabaunsee.
Ida Dougherty, . . . . .	Manhattan, Riley.
Albert William Dressel, . . . . .	Meriden, Shawnee.
Mary Louise Finley, . . . . .	Manhattan, Riley.
Mary Frazier, . . . . .	Anstin, Neosho.
Linnie Gall, . . . . .	Harveyville, Wabaunsee.
Charles Lawrence Gall, . . . . .	Harveyville, Wabaunsee.
Mary Maude Gardiner, . . . . .	Bradford, Wabaunsee.
George C. Gentes, . . . . .	Council Grove, Morris.
Susie Eliza Hall, . . . . .	Farmington, Atchison.
Hortensia Harman, . . . . .	Valley Falls, Jefferson.
John Bright Harman, . . . . .	Valley Falls, Jefferson.
Ivy Frances Harner, . . . . .	Leonardville, Riley.
Romeo C. Harner, . . . . .	Green, Clay.

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\*Expelled.



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Mark V. Hester, . . . . .	Haviland, Kiowa.
George Washington Hinkle, . . . . .	Fortesque, <i>Missouri</i> .
Theodore Delbert Hogbin, . . . . .	Eskridge, Wabaunsee.
Alice C. Hood, . . . . .	Manhattan, Riley.
Margaretha Elise Horn, . . . . .	Imperial, <i>Nebraska</i> .
Albert Stephen Houghton, . . . . .	Manhattan, Riley.
Pamelia Hoyt, . . . . .	Hoytsville, <i>Utah</i> .
Sydney Obediah Huffman, . . . . .	Morgantown, <i>N. Carolina</i> .
Mac F. Hulett, . . . . .	Edgerton, Johnson.
Onie Hulett, . . . . .	Edgerton, Johnson.
Fred Hulse, . . . . .	Keats, Riley.
Jessie Stingley Hunter, . . . . .	Manhattan, Riley.
Charles R. Hutchings, . . . . .	Pomona, Franklin.
Riley Ingraham, . . . . .	Manhattan, Riley.
Charles Edward Jennings, . . . . .	Weskan, Wallace.
Samuel B. Johnson, . . . . .	Melvorn, Osage.
Maude Ethel Knickerbocker, . . . . .	Long Pine, <i>Nebraska</i> .
Bert Albert Knox, . . . . .	Manhattan, Riley.
Robert McIntosh Laundry, . . . . .	Wreford, Geary.
Mary Eliza Lyman, . . . . .	Manhattan, Riley.
Thomas Eddy Lyon, . . . . .	Riley, Riley.
William Otis Lyon, . . . . .	Manhattan, Riley.
Charles Wesley McCord, . . . . .	Leonardville, Riley.
Phoebe McCormick, . . . . .	Zeandale, Riley.
McLeod Wilson McCrea, . . . . .	Dunavant, Jefferson.
Edith Rose McDowell, . . . . .	Manhattan, Riley.
Bertha Virginia McNair, . . . . .	Manhattan, Riley.
John R. McNinch, . . . . .	Leonardville, Riley.
John William Mills, . . . . .	Sue City, Missouri.
William Henry Moore, . . . . .	Manhattan, Riley.
Elizabeth De Woele Morrison, . . . . .	Arispie, Pottawatomie.
George Thorp Morrison, . . . . .	Arispie, Pottawatomie.
William Douglass Morrison, . . . . .	Arispie, Pottawatomie.
Eusebia De Long Mudge, . . . . .	Eskridge, Wabaunsee.
Nora Newell, . . . . .	Manhattan, Riley.
August Fred Niemoller, . . . . .	Stitt, Dickinson.
James Francis Odle, . . . . .	Rossville, Shawnee.
Leon Olmstead, . . . . .	Hill City, Graham.
Louise Amelia Olson, . . . . .	Garrison, Pottawatomie.
Isaac Belden Paddock, . . . . .	Manhattan, Riley.
Charles Wesley Pape, . . . . .	Topeka, Shawnee.
Martha Rosa Pape, . . . . .	Topeka, Shawnee.
Maude Helen Parker, . . . . .	Manhattan, Riley.
Henry Leamer Pellet, . . . . .	Prairie Center, Johnson.
Carl Frederick Pfuetze, . . . . .	Manhattan, Riley.
Herbert Rice Phillips, . . . . .	Diamond Springs, Morris.
John Edmund Pierce, . . . . .	Winfield, <i>Iowa</i> .

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Mary Louise Pierce, . . . . .	Winfield, Iowa.
Katharine Hall Pierce, . . . . .	Winfield, Iowa.
Frederic Ellsworth Rader, . . . . .	Manhattan, Riley.
Georgie Phyllis Rees, . . . . .	Minneapolis, Ottawa.
Ada Rice, . . . . .	Manhattan, Riley.
John De Witt Riddell, . . . . .	Conway, McPherson.
Blanche Maude Riggle, . . . . .	Louisville, Pottawatomie.
Isaac Archie Robertson, . . . . .	Manhattan, Riley.
John Albert Rokes, . . . . .	Onaga, Pottawatomie.
Minnie Louisa Romick, . . . . .	Manhattan, Riley.
Winnie Luella Romick, . . . . .	Manhattan, Riley.
Charles Baxter Selby, . . . . .	Manhattan, Riley.
Jennie May Selby, . . . . .	Manhattan, Riley.
Clara Alice Short, . . . . .	Blue Rapids, Marshall.
John Andrew Smallwood, . . . . .	Manhattan, Riley.
Charlie Chrisfield Smith, . . . . .	Manhattan, Riley.
Fred Raymond Smith, . . . . .	Oxford, Sumner.
George Wildman Smith, . . . . .	Manhattan, Riley.
William Elmer Smith, . . . . .	Oxford, Sumner.
Ralph K. Snow, . . . . .	Hoge, Leavenworth.
Wesley O. Staver, . . . . .	Dallas, Missouri.
John Stingley, . . . . .	Manhattan, Riley.
Ruth Tipton Stokes, . . . . .	Garnett, Anderson.
James Benedict Sutton, . . . . .	Russell, Russell.
John Edwin Taylor, . . . . .	Berryton, Shawnee.
William Thomas Taylor, . . . . .	Onaga, Pottawatomie.
Joseph B. Thoburn, . . . . .	Peabody, Marion.
Charles Henry Thompson, . . . . .	Bakersfield, California.
Dora Thompson, . . . . .	Irving, Marshall.
George K. Thompson, . . . . .	Irving, Marshall.
William M. Town, . . . . .	Calabasas, Arizona Ter.
Phoebe Carey Turner, . . . . .	Rock Creek, Jefferson.
Fritz Johannus Fredericus Van Benthem von den Bergh, . . . . .	The Hague, Holland.
Robert Edward Walker, . . . . .	Grenola, Elk.
Herman Brickley Walter, . . . . .	Hillsdale, Miami.
Julia Winifred Westgate, . . . . .	Manhattan, Riley.
John O. Wilkin, . . . . .	Bow Creek, Phillips.
Jessie Chase Whitney, . . . . .	Manhattan, Riley.
Clara Belle Whitelock, . . . . .	Bluff, Harper.

## FIRST YEAR.

Raymond Barrington Abbott, . . . . .	Garden City, Finney.
Emma Elizabeth Adams, . . . . .	Manhattan, Riley.
David Ewing Ainsworth, . . . . .	Ochiltree, Johnson.
Flora Evelina Allingham, . . . . .	Manhattan, Riley.
William Thomas Anderson, . . . . .	Parsons, Labette.

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Leonard Smith Avery, . . . .	Shields, Lane.
Charles Antoine Bailey, . . . .	LaCrosse, Rush.
Gertie Lenore Baker, . . . .	Eskridge, Wabaunsee.
Mabel Ballard, . . . .	Ballard's Fall, Washington.
Erskine Alonzo Barber, . . . .	Parsons, Labette.
Alfonso K. Barnes, . . . .	Dover, Shawnee.
Frederick J. Bartel, . . . .	Topeka, Shawnee.
Eva Bartlett, . . . .	Poe, Ottawa.
Pearl Bartlett, . . . .	Poe, Ottawa.
Franklin Fairbanks Baxter, . . . .	Manhattan, Riley.
Frank Beach, . . . .	Havensville, Pottawatomie.
Edward Lee Beard, . . . .	Wellington, Sumner.
Carrie Amelia Beatty, . . . .	Leavenworth, Leavenworth.
Herbert John Bender, . . . .	Topeka, Shawnee.
Rubert Bender, . . . .	Topeka, Shawnee.
George Gordon Boardman, . . . .	Centralia, Nemaha.
Mamie Bowers, . . . .	Marysville, Marshall.
Arthur Wiltshire Brewer, . . . .	Manhattan, Riley.
Carrie Brewer, . . . .	Ogden, Riley.
Lida Brewer, . . . .	Ogden, Riley.
Albert Leo Brooks, . . . .	Salina, Saline.
Mary Brooks, . . . .	Manhattan, Riley.
Hyman E. Brown, . . . .	Topeka, Shawnee.
Roy Brown, . . . .	Manhattan, Riley.
Henry Edwin Buehler, . . . .	Hiawatha, Brown.
William Henry Busch, . . . .	St. George, Pottawatomie.
James Marion Calhoun, . . . .	New Murdock, Kingman.
Clarence Asa Chandler, . . . .	Argentine, Wyandotte.
Marshall Chandler, . . . .	Argentine, Wyandotte.
Frank E. Cheadle, . . . .	Ulysses, Grant.
John Cornelius Christensen, . . . .	Clarkson, Riley.
Earle Allen Clark, . . . .	Greenleaf, Washington.
Sydney, Clark, . . . .	Emporia, Lyon.
Lorena Estella Clemons, . . . .	Alida, Geary.
Asa Martin Cobb, . . . .	Palco, Rooks.
Sherman Page Coe, . . . .	Manhattan, Riley.
Almond J Coen, . . . .	Half Way, Clond.
John S. Coleman, . . . .	Menoken, Shawnee.
Warren Conner, . . . .	El Dorado, Butler.
Creed Conwell, . . . .	Manhattan, Riley.
Florence Ruth Corbett, . . . .	Manhattan, Riley.
Ernest Brown Coulson, . . . .	Anthony, Harper.
Alverta May Cress, . . . .	Manhattan, Riley.
Mary Elizabeth Crum, . . . .	Stockdale, Riley.
Elsie Emeline Crump, . . . .	Manhattan, Riley.
Grace Hannah Dalton, . . . .	St. George, Pottawatomie.
Curtis Darnell, . . . .	Earlton, Neosho.

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Fannie Gillispie Davis, . . . .	Grand Haven, Shawnee.
Sarah Lillian Davis, . . . .	Oskaloosa, Jefferson.
Mrs. Dora Ann Dawson, . . . .	Yates Center, Woodson.
James Cnrtain Dawson, . . . .	Yates Center, Woodson.
Daisy Day, . . . .	Onaga, Pottawatomie.
Flora Day, . . . .	Onaga, Pottawatomie.
Lafayette Devault, . . . .	Olathe, Johnson.
George Henry Dial, . . . .	Cleburne, Riley.
Hala Dial, . . . .	Stockdale, Riley.
Lillie C. Dial, . . . .	Cleburne, Riley.
Eva Eliza Dickson, . . . .	Edgerton, Johnson.
Justinia Wilhelmina Dieter, . . . .	Oak Hill, Clay.
Harriett Elizabeth Dodson, . . . .	Wakefield, Clay.
George Doll, . . . .	Larned, Pawnee.
Earnest A. Donaven, . . . .	Agra, Phillips.
John Dougherty, . . . .	Manhattan, Riley.
Fred George Dow, . . . .	Manhattan, Riley.
Mary Elizabeth Dowden, . . . .	Minneapolis, Ottawa.
Horatio Edward Downing, . . . .	Downs, Oklahoma.
Jessie Downing, . . . .	Oxford, Sumner.
Frank J. Downs, . . . .	Lyndon, Osage.
Olive May Drake, . . . .	Manhattan, Riley.
Victor Eckart, . . . .	Minneapolis, Ottawa.
Marshall Columbus Edwards, . . . .	Vinton, Cowley.
Bertha Louise Elkins, . . . .	Wakefield, Clay.
Victor Emrick, . . . .	Seely, Cowley.
Jephthah W. Evans, . . . .	Manhattan, Riley.
Sarah Jane Evans, . . . .	Riley, Riley.
Clyle Farman, . . . .	Manhattan, Riley.
Sprague Farman, . . . .	Manhattan, Riley.
Sadie May Farmer, . . . .	Cawker City, Mitchell.
Charlotte Finley, . . . .	Parallel, Washington.
Emma Susan Finley, . . . .	Parallel, Washington.
Josephine Finley, . . . .	Manhattan, Riley.
Mary Loretta Findley, . . . .	Fremont, Graham.
Harry T. Fish, . . . .	La Crosse, Rush.
George Forsythe, . . . .	Howard, Elk.
Howard Shearer Fritz, . . . .	Newton, Harvey.
Mildred Christine Frost, . . . .	Manhattan, Riley.
Eugene Leonard Frowe, . . . .	Louisville, Pottawatomie.
Florence Eleanor Fryhofer, . . . .	Randolph, Riley.
George William Fryhofer, . . . .	Randolph, Riley.
Waldo Parkhnrst Gahan, . . . .	Manhattan, Riley.
Clayton Isaac Gall, . . . .	Harveyville, Wabaunsee.
Mary Galloway, . . . .	Myers Valley, Pottawatomie.
David N. Gamble, . . . .	Lansing, Leavenworth.
Ernest A. Gardiner, . . . .	Wakarusa, Shawnee.

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John Garrett, . . . . .	Centropolis, Franklin.
Herman H. Gerardy, . . . . .	Fact, Clay.
Mabel Gibbs, . . . . .	James, Iowa.
Ernest W. Gilkerson, . . . . .	Willard, Shawnee.
Harvey G. Gilkerson, . . . . .	Willard, Shawnee.
Marion Gilkerson, . . . . .	Willard, Shawnee.
Lucelia Newell Gill, . . . . .	Paxico, Wabaunsee.
Willard Ashley Gilson, . . . . .	Alton, Osborne.
Edward William Marble Ginter, . . . . .	Waldron, Missouri.
Fred Ginter, . . . . .	Valley Falls, Jefferson.
Garrett Walter Ginter, . . . . .	Valley Falls, Jefferson.
Plumb Radical Goss, . . . . .	Lansing, Leavenworth.
Bert Waldron Green, . . . . .	Manhattan, Riley.
Charles Shepard Green, . . . . .	Manhattan, Riley.
Joseph E. Gregory, . . . . .	Mt. Ayr, Osborne.
Etta Ellen Griffin, . . . . .	Milford, Geary.
Charles Sumner Hagerman, . . . . .	Vinland, Douglas.
Carrie Elizabeth Hall, . . . . .	Bateham, Clay.
Oscar Hugo Halstead, . . . . .	Leonardville, Riley.
Maria Glen Hanlin, . . . . .	Osborne, Missouri.
David H. Hanline, . . . . .	Almena, Norton.
Samuel McCreedy Hanlon, . . . . .	Orie, Sumner.
William Lesley Hanlon, . . . . .	Orie, Sumner.
Gertrude Hardy, . . . . .	Manhattan, Riley.
Llewellyn Hardy, . . . . .	Manhattan, Riley.
Walter Eugene Hardy, . . . . .	Manhattan, Riley.
Elizabeth Lynn Hartley, . . . . .	Manhattan, Riley.
Arthur Charles Haulenbeck, . . . . .	Manhattan, Riley.
Gertrude Evangeline Haulenbeck, . . . . .	Manhattan, Riley.
Marie Haulenbeck, . . . . .	Manhattan, Riley.
Philip Hay, . . . . .	Junction City, Geary.
Blanche Etta Hayes, . . . . .	Manhattan, Riley.
Edgar Heath, . . . . .	Randolph, Riley.
Lorena Marguerite Helder, . . . . .	Manhattan, Riley.
Abraham Hudson Hepler, . . . . .	Manhattan, Riley.
Clarence Hepler, . . . . .	Manhattan, Riley.
Charles E. Herynk, . . . . .	Hanover, Washington.
Everett Lewis Higinbotham, . . . . .	Myers Valley, Pottawatomie
Samuel Vincent Henry Hogbin, . . . . .	Eskridge, Wabaunsee.
Albert Hogue, . . . . .	Barnes, Washington.
Bertie Turner Holderman, . . . . .	Chetopa, Labette.
Albert David Holmes, . . . . .	Gaylord, Smith.
Mrs. Clara Effie Holroyd, . . . . .	Manhattan, Riley.
Clarence V. Holsinger, . . . . .	Rosedale, Wyandotte.
Alice Horton, . . . . .	Manhattan, Riley.
John Burbidge Hoyt, . . . . .	Kamas, Utah.
Martha Hoyt, . . . . .	Kamas, Utah.

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Charles Gibson Huey, . . . . .	Downs, Osborne.
Alonzo Hunter, . . . . .	Eskridge, Wabaunsee.
John L. Hunter, . . . . .	Manhattan, Riley.
Howard E. Hupp, . . . . .	Howard, Elk.
Henry Dallas Huxley, . . . . .	Princeton, Franklin.
Frank William Irvin, . . . . .	Manhattan, Riley.
Andrew Jackson, . . . . .	Lincoln, Lincoln.
Mary Jacobs, . . . . .	Clark, <i>South Dakota</i> .
William John Jennings, . . . . .	Manhattan, Riley.
Abram Johnson, . . . . .	Melvern, Osage.
Christian Andrick Johnson, . . . . .	Success, Russell.
John James Johnson, jr., . . . . .	Success, Russell.
Fred Ralph Jolly, . . . . .	Atwood, Rawlins.
Marian Elizabeth Jones, . . . . .	Manhattan, Riley.
Isaac Jones, jr., . . . . .	Ada, Lincoln.
Tom Lormos Jones, . . . . .	Manhattan, Riley.
William Irvin Joss, . . . . .	Fairview, Brown.
Olive Jane Kearns, . . . . .	Manhattan, Riley.
Peter Guin Keele, . . . . .	Manhattan, Riley.
Rosella Kelly, . . . . .	Ogden, Riley.
Charles Nash Kenyon, . . . . .	Cawker City, Mitchell.
Orlin Sereno Kenyon, . . . . .	Concordia, Cloud.
Ben John Kimball, . . . . .	Manhattan, Riley.
John Milton Kimball, . . . . .	Manhattan, Riley.
Stella Victoria Kimball, . . . . .	Manhattan, Riley.
Udah Sheldon King, . . . . .	Vinland, Douglas.
Charles Henry Kinzie, . . . . .	Hiawatha, Brown.
Lizzie M. Knox, . . . . .	Clyde, Cloud.
Ambrose W. Krotzer, . . . . .	Manhattan, Riley.
James Sproat Lamm, . . . . .	Lansing, Leavenworth.
Kate Law, . . . . .	Brownell, Ness.
Perry Law, . . . . .	Brownell, Ness.
Calvin Harvey Leonard, . . . . .	Lebo, Coffey.
Cortes Dawson Lesley, . . . . .	Cnlver, Ottawa.
Bolsir Lichtenphan, . . . . .	Junction City, Geary.
Davis Eugene Linden, . . . . .	Bristow, Osborne.
Rose Loader, . . . . .	Bateham, Clay.
Charles W. Lyman, . . . . .	Manhattan, Riley.
Charles Henry Manly, . . . . .	Junction City, Geary.
Engene Marshall, . . . . .	Manhattan, Riley.
Sarah B. Marshall, . . . . .	Manhattan, Riley.
Janna Mary Martin, . . . . .	Eskridge, Wabaunsee.
Charles Dwin McCanley, . . . . .	Wilbrrn, Ford.
Charles Delbert McCullough, . . . . .	Rossville, Shawnee.
Martha A. McCullough, . . . . .	Delevan, Morris.
Olive H. McCullough, . . . . .	Delevan, Morris.
Maude McDonald, . . . . .	Leeds, <i>Missouri</i> .

Lee McGrath, . . . . .	Beloit, Mitchell.
George Vernon McKeever, . . . . .	Valley Falls, Jefferson.
George Reford McLeavy, . . . . .	Dwight, Morris.
George Taylor McNair, . . . . .	Manhattan, Riley.
Joseph Jerome McNamee, . . . . .	Junction City, Geary.
Frank Thomas McNinch, . . . . .	Leonardville, Riley.
Alfred C. McVay, . . . . .	Wreford, Geary.
Rhodes Benjamin Mead, . . . . .	Maple City, Cowley.
Ward Cadwell Mead, . . . . .	Maple City, Cowley.
Elizabeth Ida Meyers, . . . . .	Manhattan, Riley.
Bessie Matilda Miller, . . . . .	Dover, Shawnee.
David Hale Miller, . . . . .	Dover, Shawnee.
James Miller, . . . . .	Topeka, Shawnee.
Nannie Martha Mills, . . . . .	Riley, Riley.
John Mitchell, . . . . .	North Topeka, Shawnee.
Oliver L. Mitchell, . . . . .	Groveland, McPherson.
Minnie Minerva Moffett, . . . . .	Manhattan, Riley.
Daniel Estol Moore, . . . . .	Manhattan, Riley.
Inez Vienna Moore, . . . . .	Randolph, Riley.
Oscar Brown Moore, . . . . .	Cawker City, Mitchell.
Rosalie Moore, . . . . .	Stark, Neosho.
Scott Roscoe Moore, . . . . .	Holton, Jackson.
Mabel Maude Moser, . . . . .	Silver Lake, Shawnee.
Stephen Needham, . . . . .	Lane, Franklin.
Frank Danforth Nettleton, . . . . .	Burlingame, Osage.
Albert Boyer Newell, . . . . .	Randolph, Riley.
Eva Gertrude Nichols, . . . . .	Dover, Shawnee.
Ellen Augustus Sophia Nilson, . . . . .	Manhattan, Riley.
Lillian Oldham, . . . . .	Keats, Riley.
Jacob Clarke Osgood, . . . . .	Florence, Marion.
Oscar Albert Otten, . . . . .	Brenner, Doniphan.
Pearl Hiram Pagett, . . . . .	Beloit, Mitchell.
Ida Rebecca Pape, . . . . .	Topeka, Shawnee.
Inez Ethel Parker, . . . . .	Hill City, Graham.
Curtis Zimmerman Patton, . . . . .	Fall River, Greenwood.
Charles Randolph Pearson, . . . . .	Collyer, Trego.
Clara Jane Pender, . . . . .	Pueblo, Colorado.
James Henry Persinger, . . . . .	Canton, McPherson.
Will Oscar Peterson, . . . . .	Randolph, Riley.
William H. Phipps, . . . . .	Chapman, Dickinson.
Alexander Calvin Pike, . . . . .	Westmorel'd, Pottawatomie
Emma Dell Pike, . . . . .	Westmorel'd, Pottawatomie
Charles Stephen Pope, . . . . .	Cawker City, Mitchell.
Horace Greeley Pope, . . . . .	Cawker City, Mitchell.
Hiram Pratt, . . . . .	Manhattan, Riley.
Lottie Loreina Puckett, . . . . .	Riley, Riley.
Clara Belle Ramsey, . . . . .	St. Marys, Pottawatomie.

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Cora Reece, . . . . .	May Day, Riley.
Charles Duncan Rees, . . . . .	Delphos, Ottawa.
William Francis Redenbaugh, . . . . .	Edgerton, Johnson.
Robert Rehfeld, . . . . .	Manhattan, Riley.
Ambrose E. Ridenour, . . . . .	Formoso, Jewell.
James Ritchie, . . . . .	Havershill, Butler.
Forrest Debreë Robinson, . . . . .	Burlingame, Osage.
William Walter Robison, . . . . .	Yates Center, Woodson.
Mrs. Mary I. Rockefeller, . . . . .	Russell, Russell.
Anna Rollason, . . . . .	Geuda Springs, Cowley.
Beulah Melvin Royce, . . . . .	Carleton, Dickinson.
Charles Albert Rudisill, . . . . .	Emporia, Lyon.
Joe Salveson, . . . . .	Girard, Crawford.
Edward Sandell, . . . . .	Manhattan, Riley.
Victor Irvin Sandt, . . . . .	Alden, Rice.
John Wesley Sayre, . . . . .	Cedar Point, Chase.
Milton Andrew Scates, . . . . .	Kanopolis, Ellsworth.
Rose Scates, . . . . .	Kanopolis, Ellsworth.
John Alfred Scheel, . . . . .	Emporia, Lyon.
Eugene E. Schmitz, . . . . .	Alma, Wabaunsee.
Erna Augusta Schroll, . . . . .	Chepstow, Washington.
Joseph Schroll, . . . . .	Chepstow, Washington.
Augusta Alvine Wilhelmine Schüneman,	Burzen, <i>Germany</i> .
Alfred K. Seager, . . . . .	Blue Rapids, Marshall.
Thomas Bartlett Sears, . . . . .	Tescot, Ottawa.
Lillian Gertrude Secrest, . . . . .	Randolph, Riley.
Jake Ulrich Secrest, . . . . .	Randolph, Riley.
Mabel Gertrude Selby, . . . . .	Manhattan, Riley.
Abraham H. Severn, . . . . .	Agricola, Coffey.
George Chapman Seymour, . . . . .	Burlingame, Osage.
Fred Shaw, . . . . .	Portis, Osborne.
Elida May Shearer, . . . . .	Rossville, Shawnee.
Annie Maud Shipman, . . . . .	Elmdale, Chase.
Alice Myrtle Shofe, . . . . .	Manhattan, Riley.
Gertrude Werden Shofe, . . . . .	Manhattan, Riley.
Charles Wesley Shull, . . . . .	Manhattan, Riley.
Richard Simmons, . . . . .	Cora, Smith.
George William Simms, . . . . .	New Helena, <i>Nebraska</i> .
Ellen Sites, . . . . .	Hays City, Ellis.
Lavinia Sjoquist, . . . . .	Eskridge, Wabaunsee.
Emma Elnora Skow, . . . . .	Leonardville, Riley.
Albert Edwin Smith, . . . . .	Potwin, Butler.
Jennie Dean Smith, . . . . .	Manhattan, Riley.
Pardy Cullen Smith, . . . . .	Luray, Russell.
Sallie Smith, . . . . .	Bigelow, Marshall.
George William Smith, . . . . .	Mankato, Jewell.
Thomas H. Smyth, . . . . .	Beloit, Mitchell.



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Lilly May Sparks, . . . . .	Ludell, Rawlins.
John Speidel, . . . . .	Poast Town, <i>Ohio</i> .
Amos Collins Spencer, . . . . .	Gove, Gove.
Albert Reid Spencer, . . . . .	Gove, Gove.
Robert Lee Stafford, . . . . .	Leonardville, Riley.
Ida May Staver, . . . . .	Dallas, <i>Missouri</i> .
Howard C. Stephenson, . . . . .	Clements, Chase.
Joseph Stephens, . . . . .	Willard, Shawnee.
Anna Bell Stewart, . . . . .	Dover, Shawnee.
William Henry Stewart, . . . . .	Winchester, Jefferson.
Fairy Josephine Strong, . . . . .	Manhattan, Riley.
Cora Adella Stump, . . . . .	Corning, Nemaha.
Emma Catharine Stump, . . . . .	Corning, Nemaha.
Robert Von Volson Sutherland, . . . . .	Berryton, Shawnee.
Miriam Esther Swingle, . . . . .	Manhattan, Riley.
Frances Eleanor Thackrey, . . . . .	Manhattan, Riley.
Franklin Albert Thackrey, . . . . .	Manhattan, Riley.
Jeanne Brown Thomas, . . . . .	Minneapolis, <i>Minnesota</i> .
Elmer Thomas Thompson, . . . . .	Smith Center, Smith.
Mary Diantha Thompson, . . . . .	Wamego, Pottawatomie.
Murray Tiffany, . . . . .	Barnesville, Bourbon.
Delbert Timbers, . . . . .	Beloit, Mitchell.
Jessie May Tinkham, . . . . .	Kansas City, <i>Missouri</i> .
Joseph Towers, . . . . .	Manhattan, Riley.
William Mathew Towers, . . . . .	Manhattan, Riley.
Joseph Lewis Treu, . . . . .	Halifax, Wabaunsee.
Frank George Trzaskowsky, . . . . .	Junction City, Geary.
Corinne Tucker, . . . . .	Clinton, Douglas.
Eva S. Vincent, . . . . .	Argonia, Sumner.
Samuel R. Vincent, . . . . .	Argonia, Sumner.
Ellsworth Giles Voiles, . . . . .	Manhattan, Riley.
Olive Voiles, . . . . .	Manhattan, Riley.
Ida May Walter, . . . . .	Hillsdale, Miami.
Hilda Germania Walters, . . . . .	Manhattan, Riley.
George Walter Washington, . . . . .	Manhattan, Riley.
Edgar Isaac Washington, . . . . .	Manhattan, Riley.
Wilbur Winfield Watson, . . . . .	Beeler, Ness.
John Wybro Webb, . . . . .	Green, Clay.
Grace Greenwood Wells, . . . . .	Manhattan, Riley.
George Wright West, . . . . .	Topeka, Shawnee.
Ernest Louis Wetzig, . . . . .	Winkler's Mills, Riley.
Fannie Mary Wetzig, . . . . .	Winkler's Mills, Riley.
Hannah Amelia Wetzig, . . . . .	Winkler's Mills, Riley.
Myrtle Caroline Whaley, . . . . .	Manhattan, Riley.
Melvin Wheeler, . . . . .	Canton, McPherson.
Casey Oran Whitford, . . . . .	Manhattan, Riley.
Jessamine Whitford, . . . . .	Manhattan, Riley.

Mary Elizabeth Willard, . . . . .	Wamego, Pottawatomie.
John Melancthon Williams, . . . . .	Edgerton, Johnson.
May Lizzie Winters, . . . . .	St. Marys, Pottawatomie.
Edgar Wood, . . . . .	Rossville, Shawnee.
Orlanda Andrew Wright, . . . . .	Yates Center, Woodson.
Lenora Pearl Wycoff, . . . . .	Manhattan, Riley.
Frank Yeoman, . . . . .	Lippard, Rush.
Charles D. Young, . . . . .	Yates Center, Woodson.
Joseph Ulysses Zimmerman, . . . . .	Olathe, Johnson.

## SUMMARY.

	<i>Gentle- men.</i>	<i>Ladies.</i>	<i>Total.</i>
Post-graduate . . . . .	6	6	12
Fourth-year . . . . .	31	22	53
Third-year . . . . .	38	12	50
Second-year . . . . .	80	55	135
First-year . . . . .	217	126	343
Totals . . . . .	372	221	593

From 73 counties of Kansas, 555; from 20 other States, 38; applicants not enrolled, 26.

## Objects and Methods.

### ENDOWMENT AND RESOURCES.

An act of Congress, approved July 2d, 1862, gave to each State public lands to the amount of 30,000 acres for each of the Senators and Representatives in Congress according to the census of 1860, for the "endowment, support, and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

Under this act the State of Kansas received 82,313.53 acres of land, and, in 1863, established the State Agricultural College, by endowing with these lands Bluemont College, which had been erected two miles from Manhattan under the auspices of the M. E. Church, but was presented to the State for the purpose named in the act of Congress.

In 1873 the College was reorganized upon a thoroughly industrial basis, with prominence given to practical agriculture and related sciences; and in 1875 the furniture and apparatus of the College were moved to the farm of 215 acres, one mile from the city of Manhattan. On this fine location the State has erected buildings valued at \$135,000, of which a description is given elsewhere. The farm and grounds, furniture, stock, and other illustrative apparatus are valued at over \$130,000. All the lands have been sold, giving a fund of \$501,426.33, which is by law invested in bonds, the interest alone being used for the current expenses of the College.

The annual income from the endowment fund—about \$32,000—is supplemented by an appropriation under an act of Congress approved August 30, 1890, of \$15,000 for 1890, \$16,000 for 1891, \$17,000 for 1892 and a sum increasing each year by \$1,000 until the annual amount shall be \$25,000. This fund is "to be applied only to instruction in agriculture, the mechanic arts and the English language, and the various branches of mathematical, physical, natural, and economic science, with special reference to their application in the industries of life, and to the facilities for such instruction." "No portion of said moneys shall be applied directly or indirectly, under any pretense whatever, to the purchase, erection, preservation or repair of any building or buildings."

All expense of instruction is thus provided for, and the State is left

to erect the necessary buildings and meet expenses in management of the funds.

Under an act of Congress, approved March 7th, 1887, the College receives, by general appropriation in Congress, \$15,000 each year for the maintenance of an Experiment Station "to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." The property of the Station, including a building erected especially for its use, amounts to more than \$10,500.

#### OBJECTS.

This College now accomplishes the objects of its endowment in several ways:

First it gives a substantial education to men and women. Such general information and discipline of mind and character as help to make intelligent and useful citizens are offered in all its departments, while the students are kept in sympathy with the callings of the people.

Second, it teaches the sciences applied to the various industries of farm, shop, and home. Chemistry, botany, entomology, zoölogy, and mechanics are made prominent means of education to quick observation and accurate judgment. Careful study of the minerals, plants, and animals themselves illustrates and fixes the daily lessons. At the same time, lessons in agriculture, horticulture, and household economy show the application of science; and all are enforced by actual experiment.

Third, it trains in the elements of the arts themselves, and imparts such skill as to make the hands ready instruments of thoughtful brains. The drill of the shops, gardens, farm, and household departments is made a part of a general education to usefulness, and insures a means of living to all who make good use of it. At the same time it preserves habits of industry and manual exertion, and cultivates a taste for rural and domestic pursuits.

Fourth, it strives to increase our experimental knowledge of agriculture and horticulture. The provision for extensive and accurate researches made by establishing the Experiment Station as a distinct department of the College, offers assurance of more definite results than can be obtained by ordinary methods. The professors of Agriculture, Horticulture, Chemistry, Botany, and Veterinary Science, together with the President of the College, form the Experiment Station Council, by authority of which experiments are undertaken and carried on in the several departments, under the special supervision of the Professors. These touch "the physiology of plants and animals; the diseases to which they are severally subject, with remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical composition

of manures, natnral or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable."

The bulletins of the Station, issued at least as often as once in three months, are sent, according to law, free of postage, to all newspapers in the State, and "to such individuals actnally engaged in farming as may request the same, and as far as the means of the Station will permit." Correspondence with reference to bulletins and experiments is welcomed, and may be addressed to the several members of the Council.

Fifth, it seeks to extend the influence of knowledge in practical affairs beyond the College itself. For this purpose it publishes the weekly *Industrialist*. Its officers also share in the debates and consultations of farmers and horticulturists throughout the State. Each winter a series of ten Farmers' Institutes is held in as many different counties of the State. In these the Faculty share with the people in lectures, essays, and discussions upon topics of most interest to farmers. These institutes have brought the College into more direct sympathy with the people and their work, so as to make possible a more general dissemination of the trnthts presented; and permanent organizations for the same purpose in many counties are increasing. Correspondence upon such questions is invited by all members of the Faculty, and applications for institutes are desired from all parts of the State.

#### COURSE OF STUDY.

The necessity for so adjusting varions branches of a course of study that there shall be as little waste as possible in acquiring both information and discipline, is felt by every teacher. Such a conrse is not designed to be absolutely inflexible, but to guide the judgment into some definite line of progress from which no mere whim shall turn a stndent aside.

Each stndent is expected to take three studies besides one hour's daily practice in an industrial art; and variations from this rule can be made only with the consent of the Faculty.

Parallel courses are offered to both sexes, with such differences as their necessities seem to call for. The following gives the general scope of the two, but fuller explanations are fonnnd under OUTLINE OF INSTRUCTION:

#### FIRST YEAR.

FALL TERM: Algebra.  
English Analysis.  
Geometrical Drawing.  
Industrial.

WINTER TERM: Algebra.  
English Composition.  
Book-keeping.  
Free-hand Drawing three times a week.  
Industrial.

SPRING TERM: Algebra.  
English Structure.  
Botany.  
Industrial (Carpentry or Sewing).

SECOND YEAR.

FALL TERM:      Geometry.  
                      Elementary Chemistry.  
                      Horticulture.  
                      Industrial.

WINTER TERM: Geometry completed, Projection Drawing.  
Agriculture or Household Economy.  
Organic Chemistry and Mineralogy.  
Twelve Lectures in Military Science.  
Industrial (Cooking).

SPRING TERM: Anatomy and Physiology.  
Entomology.  
Analytical Chemistry.  
Twenty Lectures in Military Science.  
Industrial (Farm and Garden or Dairy).

THIRD YEAR.

FALL TERM: Trigonometry and Surveying.  
Agricltural Chemistry.  
General History.  
Industrial (Farm and Garden).

WINTER TERM: Mechanics.  
Constitutional History and Civil Government.  
Rhetoric.  
Industrial.

SPRING TERM: Civil Engineering or Hygiene.  
Physics.  
English Literature.  
Perspective Drawing two hours a week; Drafting  
two hours.  
Industrial.

## FOURTH YEAR.

FALL TERM: Agriculture or Literature.  
Physics and Meteorology.  
Psychology.  
Industrial.

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WINTER TERM: Logic, Deductive and Inductive.

Zoölogy.

Structural Botany.

Veterinary Science or Floriculture.

Industrial.

SPRING TERM: Geology.

Political Economy.

An elective in Agriculture, Horticulture, Mechan-  
ics, or related sciences.

Industrial.

CLASS HOURS, 1891-92.												
FIRST YEAR.		SECOND YEAR.					THIRD YEAR.		FOURTH YEAR.			
HRS.	SPECIAL.	Algebra.	English.	Industrial.	Industrial.	Horticulture.	Algebra.	General History.	Trigonometry & Surveying.	Agriculture.	Literature.	
I.	Drawing.	English.	Industrial.	Drawing.	Horticulture.	Algebra.	Industrial.	Industrial.	Gen'l History.	Psychology.		
II.	Botany.	Drawing.	Algebra.	English.	Chemistry.	Industrial.	Horticulture.	Trigonometry & Surveying.	Physiology.	Physics.	Industrial.	
III.	Book-keep'g.	Industrial.	Drawing.	Algebra.	Chemistry.	Industrial.		Physiology.	Industrial.	Industrial.	Physics.	
IV.	Arithmetic.	Drill and Rhetoricals.				Drill, Rhetoricals, and Chemical Practice.		Surveying Practice.		Drill and Rhetoricals.		
V.	Drill.											
FALL TERM (14 wks.).												
I.	U. S. History.	Book-keeping.	English Composition.	Algebra.	Agriculture.	Industrial.	Household Economy.	Agricultural Chemistry.		Botany.	Zoology.	
II.	English Analysis.	Algebra.	Book-keeping.	English Composition.	Industrials.	Agriculture.	Geometry.	Mechanics.	Industrial.	Zoology.	Botany.	
III.	Industrial.	English Composition.	Drawing 3 times a week.	Book-keeping.	Chemistry 6 wks. Mineralogy.	Geometry.	Chemistry 6 wks. Mineralogy.	Industrial.	Mechanics.	Logic.		
IV.	Arithmetic.	Industrial.	Algebra.	Drawing 3 times a week.	Geometry.	Chemistry 6 wks. Mineralogy.	Blowpipe Analysis.	Rhetoric.		Veterinary Science.	Flori-culture.	
V.	Drill.	Drawing 3 times a week.	Industrial.	Industrial.	Military Science, Blow-pipe Analysis.		Industrial.	Rhetoricals and Drill.		Industrial.		
WINTER TERM (12 weeks).												
I.	English.	Industrial.	Botany.	Algebra.	Entomology.	Analytical Chemistry.		English Literature.		U. S. Constitution.	Geology.	
II.	Industrial.	Botany.	Industrial.	English Structure.	Geometry and Drawing.	Entomology.	Drawing and Geometry.	Hygiene.	Civil Engineering.	Geology.	U. S. Constitution.	
III.	Book-keeping.	Algebra.	English Structure.	Industrial.	Analytical Chemistry.	Entomology.	Geometry and Drawing.	Physics.	Industrial.	Political Economy.		
IV.	Arithmetic.	English Structure.	Algebra.	Botany.	Military Science, Drill, and Dairying.		Entomology.	Industrial.	Physics.	Industrial.		
V.		Rhetoricals and Drill.				Drawing, Rhetoricals.		Drawing, Rhetoricals.		Drill, Rhetoricals.		
SPRING TERM (11 weeks).												



**Industrial Training.**—Closely adjusted to the course of study is industrial training in several of the arts, to which each student is required to devote at least one hour a day. Among the lines of training each student may select, with the approval of the Faculty, except in terms when special industrials are required. Young men may have Farming, Gardening and Fruit-growing, Carpentry, Cabinet-making, Iron-work, or Printing. Young women may take Sewing, Printing, Floriculture, or Music.

All young men must have their industrials for one term in the carpenter shop before completing the first year; and during the spring term of the second year and the fall term of the third year, upon the farm, garden, and orchards. Young women take their industrial for one term of the first year in sewing, and for the winter and spring terms of the second year in the kitchen laboratory and dairy.

The daily routine requires chapel at 8:30 A.M., and classes from 8:50 A.M. to 1 P.M., as shown under "Class Honrs." Class rhetorical exercises are held weekly. Military drill is twice a week. On every Friday afternoon, at 1:30, all attend the public lecture or rhetorical exercises in chapel.

**Special Courses.**—Persons of suitable age or advancement who desire to pursue such branches of study as are most directly related to agriculture or other industries may select such studies under the advice of the Faculty. Assaying and Pharmaceutical Chemistry may be provided for by special arrangement when students are qualified to pursue them.

**Post-Graduate Courses.**—Arrangements can be made for advanced study in the several departments at any time. Special opportunities for investigation and research will be afforded at all times to resident graduates in Agriculture and Agricultural Chemistry, Physics and Chemistry, Horticulture and Botany, Zoölogy and Entomology, Mathematics, Engineering and Drafting. Every facility for advancement in the several arts taught at the College will be given such students, though they are not required to pursue industrial training while in these courses.

**Degrees.**—The degree of Bachelor of Science is conferred upon students who complete the full course of four years and sustain all the examinations.

The degree of Master of Science is conferred in course upon graduates who comply with the following conditions:

1. Each candidate shall furnish evidence satisfactory to the Faculty of proficiency in at least one of each of the groups of arts and sciences here named:

ARTS.	SCIENCES.
Agriculture.	Botany.
Horticulture.	Chemistry.
Engineering.	Zoölogy.
Architecture and Designing.	Entomology.
Domestic Economy.	Physics.

2. Each candidate must present for consideration by the Faculty a satisfactory thesis, involving original researches in line with one or the other of the courses pursued as above, and shall deposit a perfect copy in the College library.

3. Application to the Faculty for sanction of the lines of study and research selected should be made as early as the first day of November, and the subject of the thesis must be settled upon as soon as the first day of January preceding the Commencement at which the degree is expected.

4. Candidates must be from graduates of three or more years' standing, unless a post-graduate course of one year or more has been pursued at this College, in which case the second degree may be conferred two years after graduation.

Outlines of direction for study and research in various arts and sciences, with special adaptation to the wants and opportunities of individual applicants, will be furnished, at request, to all graduates; and Professors in charge will gladly aid by correspondence in any researches undertaken.

The degree of Master of Science may be conferred upon the graduates of other colleges of like grade with our own, provided the applicant shall first satisfy the Faculty of his proficiency in the industrial studies distinctive of this institution, on the following conditions:

1. The applicant for the Master's degree must be a graduate of at least three years' standing, and a resident of Kansas.

2. His post-graduate study shall have been in line with that required of graduates of this College, as published in our Catalogue.

3. He must make application for the degree on or before the first day of January preceding the granting of the same. The application must be accompanied with a statement of his course of study, the work upon which the claim for the degree is based, and the subject selected for his thesis.

4. By April 1st an abstract of the thesis must be submitted to the Faculty.

5. Before May 15th the applicant shall present himself for examination. The examination shall be thorough and extensive, and shall be conducted by a special committee of the Faculty.

#### OUTLINE OF INSTRUCTION.

*Agriculture.—Second Year.*—History of agriculture, showing the successive steps by which the art has attained its present position. History and characteristics of breeds: their adaptation to the varying conditions of soil, climate, and situation; study of the forms of animals, as shown by the different breeds belonging to the College; the relation of stock-raising to general farming. Cultivation of hoed crops; management of corn and roots with reference to stock-feeding, and the growth of the finer grains. The growth of the "tame grasses," in Kansas: the best sorts for the State, and their management, as

shown by experience upon the College farm and elsewhere. Implements of simple tillage: mechanical principles involved in their construction. Application of labor. Draught: different adjustments as affecting draught; use of the dynamometer. Plows for soil and subsoil. Drainage: soils that need draining; how to lay out a system of drains.

*Fourth Year.*—General principles governing the development of domestic animals: the laws of hereditary disease—of normal, abnormal, and acquired characters; atavism; correlation in the development of parts; in-and-in breeding and cross-breeding; influences affecting fecundity. The selection and arrangement of the farm with reference to the system to be pursued. Rotation of crops: general advantages of a rotation; the best rotation for the distribution of labor, production of manure, and extermination of weeds. Planning farm buildings—barns, piggeries, and stables. Manure: how best housed and applied; composting; commercial fertilizers. Agricultural experiments; field and feeding experiments. Stock-feeding and meat production: stall-feeding; soiling.

BOOKS OF REFERENCE.—Journal of the Royal Agricultural Society of England, Morton's Cyclopaedia, Low's Practical Agriculture and Domesticated Animals, Ribot on Heredity, Farmer's Calendar, Allen's American Farm-Book, The Complete Grazer, Stephen's Book of the Farm, Thomas's Farm Implements, Waring's Draining for Profit and Health, the Reports of our own and other State Boards of Agriculture, and Shorthorn, Scotch Polled, Jersey, Berkshire, and Poland-China Herd-Books.

**Horticulture.**—It is the aim to teach this art from a botanical basis. The student applies his knowledge of the prime facts in botanical physiology to the various operations of the nursery, orchard and farm. Instruction is given by a series of lectures upon the following topics, among others: The scope of Horticulture. General principles of propagation—by buds, by seeds. Production of improved varieties—by careful selection of seeds, by interfertilization of known kinds. Perpetuation of valuable sorts of fruits by bud propagation—budding, grafting, layering, etc. The important points in nursery manipulation. The orchard: conditions of site, soil, exposure, elevation; special treatment of different kinds of fruit trees; pruning; gathering and storing fruits. Small-fruit culture; list of varieties suitable for Kansas planting. Vegetable garden; selection and preservation of seeds; planting and transplanting; the management and use of hot-bed and cold-frame. Forest plantations. Wind-breaks. Hedges. Trees and shrubs for ornamental planting.

In the winter term of the fourth year the young women study "Floriculture," the subject including general green-house management, the treatment of plants in window-gardening, the growing of flowering plants in the open air, the destruction of plant pests, etc.; practice in the plant-houses alternating with lectures on these topics.

BOOKS OF REFERENCE.—The horticultural works of Downing, Warder,

Fuller, Thomas, Loudon, Henderson, and other standard authorities; the best horticultural periodicals in the English language; the Horticultural Reports of the States of Kansas, Michigan, Illinois, Iowa, Missouri, Massachusetts, California, and others. The transactions of various horticultural societies, American and English. In Landscape Gardening, the works of Downing, Weidenmann, and Kemp.

**Entomology.**—This science is studied with special reference to its economic relations with agriculture and horticulture. A brief course in the principles of classification is followed by a more extended study of the life-history of beneficial and injurious insects, and means for encouragement of the one and for control of the other.

The instruction is presented in the form of lectures. Illustrations are furnished from the individual collections of the students, and from the entomological collections belonging to the College. Charts and drawings from nature are used to illustrate points of value in classification. The pocket lens used in botany is required in this study.

**BOOKS OF REFERENCE.**—The works of Packard, Harris, Riley, Fitch, Forbes, Lintner, Westwood, Ratzeling, and others. Reports of the United States Entomologist, Transactions of the American Entomological Society, Canadian Entomologist, Psyche, and other publications.

**Botany** —During the College course two terms are given to the study of Botany.

**ELEMENTARY BOTANY.**—In the spring term of the first year, the organs of plants are first studied, after which the minute anatomy is briefly considered. This is followed by a study of vegetable physiology.

The classification of plants, vegetable products and their uses, are other important topics of the course. During a part of the term a number of flowers are analyzed, and a few plants collected and prepared for the herbarium. Each student is required to provide himself with a pocket lens, under the direction of the professor in charge. Text-book, Kellerman's Elements of Botany and Analytical Flora of Kansas.

**ADVANCED BOTANY.**—In the winter term of the fourth year, the minute structure of plants, as well as vegetable physiology, is studied more fully. This includes an examination of the vegetable cell, its parts, modifications, and of tissue as presented in its various forms. This is made the basis for more detailed work on special subjects, among which may be mentioned germination, development of tissues, protoplasm, starch, parasitic fungi—especially the moulds, smuts, rusts, etc., and other cryptogamic plants. Each student has the use of a compound microscope with the necessary tools and reagents. While this course is intended primarily to furnish a foundation for applied botany in horticulture and agriculture, it also affords, especially when taken a second term as an elective study, the advantages of systematic observation and original investigation. A good herbarium and a large greenhouse are drawn upon for material for study.

**BOOKS OF REFERENCE.**—The works of Sachs, Goebel, Vines, Gray,

Lesquereux, Sullivant, Englemann, Tuckerman, Cooke, Berkeley, Darwin, De Barry, Saccardo, Walle, and others.

**Chemistry.**—INORGANIC CHEMISTRY, which occupies the fall term of the second year, includes a consideration of chemical action with nomenclature and formulas, and a careful study of the history, manufacture, physical, chemical and physiological properties, tests and uses of the various elements and their compounds. While teaching the facts as such, it is the aim to give prominence to those which show relations and illustrate principles. Especial attention is given to those substances having extended application in the arts. In addition to the usual lecture-room experiments, the student repeats, as far as practicable, all this experimental work at his private work-table. Text-book, Remsen's Introduction to the Study of Chemistry.

ORGANIC CHEMISTRY comprises a six-weeks course of lectures upon the preparation and properties of those organic substances most useful to man.

In CHEMICAL ANALYSIS, each student has his stand in the Qualitative Laboratory, completely furnished with apparatus and chemicals for his own use. His work includes the analysis of more or less complex mixtures of chemicals, minerals, ores, soils, mineral waters, well-waters, etc. The time given to this work is two hours daily for eleven weeks.

AGRICULTURAL CHEMISTRY.—This includes a thorough consideration of the application of chemical principles to the economy of the farm: the origin and formation of soils; the classification and composition of soils; the analysis of soils, and their adaptation to purposes of production; the composition and use of manures; composting; chemistry of farm operations—such as plowing, fallowing, draining; chemistry of plant-growth; the composition of grain and fodder plants, and their use and value as food; feeding; the chemistry of milk, butter, and cheese.

BOOKS OF REFERENCE.—Roscoe, Schorlemmer, Miller, Storer, Cooke, Allen, Strecker, Bloxam, Remsen, Frankland, Fresenius, Thorpe, Blyth, Prescott, Wanklyn, Tucker, Naquet, Paul and Payen, Wagner's Technology, Crooke's Metallurgy, Richardson and Watt's Technology, Muspratt's Chemistry, Watts's Dictionary, Sutton's Volumetric Analysis, Crooke's Select Methods, Gmelin's Hand-Book of Chemistry, Journal of the Royal Agricultural Society, Reports of Experiment Stations.

**Mineralogy.**—For six weeks in the second year, two hours a day are given to mineralogy. This includes the study of the properties, forms and uses of the principal minerals of the United States. Blow-pipe analysis forms an important part of the course, each student being required to identify and name a large series of minerals. The pocket lens required in botany classes is used in this study. Text-book, Dana's Manual of Mineralogy and Petrography.

BOOKS OF REFERENCE.—The works of Dana, Plattner, and Elderhorst.

**Geology.**—This includes a general consideration of the earth's features, the constitution of rocks, and the arrangement of rock-masses; the causes or origin of events in geological history; the order of succession in the strata of the earth's crust, and of the organisms that existed, and of the changes that were going on during the formation of each stratum. Prominence is given to facts having an economic bearing. The formation of soils and deposits of valuable minerals, especially in Kansas, are considered, and an excellent collection of geological specimens furnishes illustrations. LeConte's *Compend of Geology* is used as a text-book.

**BOOKS OF REFERENCE.**—The works of Dana, LeConte, Geike, and the various geological surveys.

**Anatomy and Physiology.**—Human anatomy is made the basis of a thorough study in physiology and hygiene. This includes such subjects as: Digestion and food; poisons and antidotes; circulation of the blood; respiration and ventilation; secretion and excretion; the nervous system; and the special senses. The course embraces, to some extent, Comparative Anatomy and Physiology, affording preparation for the study of Stock-breeding, Zoölogy, and Veterinary Science. Martin's *Human Body* is used as a text-book. In connection with this study, dissecting is required.

**BOOKS OF REFERENCE.**—Dalton's *Human Physiology*, Yéo's *Manual of Physiology*, Flint's *Physiology of Man*, Gray's *Anatomy*, and Chauveau's *Comparative Anatomy of the Domestic Animals*.

**Zoology.**—In this study, Orton's *Zoölogy* has been adopted as the text-book. The intention of the course is to familiarize the student with the characters of some type in each class, and then, by comparative study, with the chief modifications of the type chosen. Especial attention is given to comparative anatomy and physiology. A good collection of animals, birds, reptiles, fishes, both mounted and alcoholic, a collection of invertebrates in alcohol, and a fine collection of conchological specimens, are among the means of illustration. Dissection and work with the microscope accompany the study.

**BOOKS OF REFERENCE.**—A selection of standard works, including those of Agassiz, Huxley, Gegenbaur, Balfour, Foster, Darwin, Wallace, Frey, Packard, Coues, Baird, Jordan, Haeckel, and others.

**Veterinary Science.**—The twelve-weeks course of lectures is adapted to wants of farmers and stockmen, and includes such topics as the following: Diseases of bone and their treatment; diseases of the circulatory, respiratory, and digestive systems, their causes, treatment, and prevention; surgical operations, wounds and abscesses, difficult parturition; shoeing and lameness; veterinary dentistry; horse-judging and examination for soundness; the principal medicines used in treating sick animals, and how to give them.

Lectures are illustrated by use of animals, skeletons, charts, and dis-

eased specimens. Whenever practicable, operations are performed before the class, and students are requested to assist.

BOOKS OF REFERENCE.—The works of Williams, Low, Flemming, Smith, Dunn, Steele, and Robertson.

**Special Hygiene.**—To young women of the third year a course of daily lectures is given upon the laws of life and health. The course extends over a period of ten weeks, and covers questions pertaining to personal health, and the health of the household—such as food, air, exercise, clothing, temperature of rooms, and care of sick-room.

BOOKS OF REFERENCE.—Health and its Condition (Hinton), Dictionary of Hygiene (Blyth and Tardien), Hygiene and Public Health (Buck).

**Household Economy.**—A series of lectures to young women of the second year continues through a term of twelve weeks. These cover the subjects of marketing, the chemistry of cooking, order, neatness, and beauty in housekeeping, and comfort of a family. The class spends one hour each day in the kitchen laboratory, and cooking is done by each student.

BOOKS OF REFERENCE.—The writings of Dr. Pavy, Mrs. Lincoln, W. M. Williams, E. and F. N. Spon, H. Letheby, Miss Acton, Miss Parloa, and Miss Youmans.

**Physics and Meteorology.**—Two terms' work gives an opportunity for experimental study of the laws of sound, heat, light, electricity, and magnetism; the constitution of the atmosphere; the measurement of temperature and humidity; atmospheric pressure. Text-book, Atkinson's Ganot's Physics. This course also includes a careful study of instruments and methods employed in taking meteorological observations.

BOOKS OF REFERENCE.—The works of Deschanel, Tyndall, Faraday, Helmholtz, Grove, Gordon, Thompson, Stewart, Siemens, Maxwell, Miller, Pickering, and Kohlraush.

**Book-keeping and Commercial Law.**—Beginning with a simple cash account, Book-keeping is developed through all the principles of single- and double-entry. Considerable time is given to those forms best adapted to farm and business life. Each student provides a full set of blanks, and keeps a regular set of books, in which accuracy of calculation and posting, and neatness of execution, are just as essential as correct understanding of the principles. Text-book, Mayhew's Standard Book-keeping.

In connection with the term's work in book-keeping, a practical course in Commercial Law is given, including contracts, farm rights, negotiable paper, sales, real estate, partnership, bailment, common carriers, and business forms.

BOOKS OF REFERENCE.—Mayhew, Duff, and Bryant, Haigh's Manual of Farm Law, Townsend's Commercial Law.

**Algebra.**—One year is given to the study of Algebra. In the first term, arithmetical processes are briefly reviewed and generalized by the use of negative numbers. The student is made familiar with algebraic notation, the primary processes, factoring, fractions, and the simple equation. In the second term, the equation in its various forms and applications, and the theory of exponents, are made the subjects for study. The third term is given to ratio, proportion, series, logarithms, and such other topics as are essential to success in every course in mathematics. Text-book, Wentworth's Academic Algebra.

**Geometry.**—In geometrical drawing of the first year, the student has already become familiar with geometrical forms, and the construction of figures representing them. Plane geometry is studied during the fall term of the second year. Half the winter term is then given to solid and spherical geometry. Throughout the course original demonstrations, and the solution of practical problems involving the theorems demonstrated, are required of the class. Text-book, Wentworth's Plane and Solid Geometry.

**Trigonometry and Surveying.**—All the essential principles of plane trigonometry are carefully developed and thoroughly mastered. A short treatment of spherical trigonometry follows. Surveying includes: theory, adjustment and use of instruments, platting, determination of areas, dividing land, U. S. Government surveys, triangulation, leveling, topographical surveying, and railroad surveying. Field practice with compass, transit, plane table, and Y level, is required. A topographical map, the data for which are gathered during the fall term, is drawn by each student during the winter term. Text-book, Wentworth's Trigonometry and Surveying.

**BOOKS OF REFERENCE.**—Carhart's Plane Surveying, Johnson's Theory and Practice of Surveying, Gillespie's Land Surveying, and Higher Surveying, Reports of the Coast and Geodetic Surveys.

**Mechanics and Engineering.**—A careful consideration of the laws of motion and force, as exhibited in machines and various phenomena of nature, occupies a single term. Another term is given to lectures in elementary, mechanical and civil engineering, and to the study of proper materials for buildings, their construction and durability; forms of roofs and bridges; care and use of machinery, and roads and road-making. Drafting is an essential feature of the work. Peck's Mechanics is used as the text-book in the first term. Haswell's Engineer's Handbook is used in connection with lectures in Engineering.

**BOOKS OF REFERENCE.**—Rankine's Mechanics, Weisbach's Mechanics, Hand-books of Engineering, Knight's Mechanical Dictionary, Thurston's Materials of Engineering.

**Drawing.**—This study is required in four terms, of which two are in the first, one in the second, and one in the third year.

*First Term.*—Daily lessons for fourteen weeks. Definition and men-



uration of geometrical magnitudes, construction of perpendiculars, parallels, angles, and polygons, the circle and its secant lines, the ellipse, the ovoid, the oval, the parabola, the hyperbola, and various geometrical ornaments; use of drawing-board, T-square, and water-colors; conventional representation of building materials. Prof. Morse's first two books on Mechanical Drawing are used as text-books. The College furnishes drawing-board, T-square, triangle, and water-colors, but each student is required to have a drawing-pen and a pair of compasses with attachments.

*Second Term.*—Free-hand Drawing three hours a week for twelve weeks. The first half of the term is devoted to the study of principles of, and practice in, surface designing, after which drawing from the object is taken up. The models used are geometrical solids, and objects of utility and beauty whose forms bear close relationship to geometrical types. The students are led to recognize the facts, relations, and principles involved in the apparent form of the object, to note the distribution of light, shade, shadow, and the reflection on the same, and deduce the general principles which the observation and comparison of these appearances are found to establish. Lectures on color, principles of design, and history of ornamentation are occasionally given.

*Third Term.*—Mechanical Drawing, six weeks. Orthographic and oblique projection of the straight line and the circle; intersection of geometrical solids; construction and development of helices. Principles of isometrical projection. Principles of shades and shadows. Books 3 and 4 of Morse's Mechanical Drawing are used as text-books.

*Fourth Term.*—Mechanical Drawing four times a week for ten weeks. Half of this time is given to architectural and machine drafting, and half to the study of linear perspective, comprising principles of parallel, angular and oblique perspective; the perspectives of vertical and horizontal cylinders, cylindric perspective, and perspective corrections; intersections of curved and plain surfaces in perspective; shadows in perspective; shaded perspectives. Books 5 and 6 of Morse's Mechanical Drawing are used as text-books.

During the winter term of the third year, each student is required to draw, color, ink and letter a map delineating the surveys made during the fall term.

Students who show special aptitude are encouraged to take drawing as a fourth study during any part of the course, and given every opportunity to fit themselves for the drafting office or for special art schools. The instruction includes an extended course in free-hand drawing, shading, coloring, architectural and mechanical drawing, supplemented by a course of reading on art topics.

The graphic work of the different classes and special students is retained by the department for exhibition during Commencement, after which it is returned.

BOOKS OF REFERENCE.—Warren's Descriptive Geometry, Walter Smith's Manuals of Art Education, Ware's Perspective, Andre's Hand-

Book of Topographical Drawing, Davies's Shades and Shadows, Gwilt's Cyclopedia of Architecture, Prang's Art Atlas, Lübke's History of Art, Steinhäuser's Room Decoration, Van Bezoldt's Theory of Color, Winkelmann's History of Ancient Art, and several volumes of the writings of Viollet Le Duc.

**English Language and Literature.**—Grammar is passed upon entrance, but the fall term of the first year is given to study of the origin and growth of the language, the analysis of sentence-making, and the discussion of idioms, difficult constructions, and parallel expressions, together with such contraction, transposition, and transformation of sentences as will aid in securing variety in expression. The course will be essentially one of higher analysis. The winter term is given to the study and practice of composition. The spring term is given to English Structure. Under this is included a careful study of words and their elements—roots, prefixes, and suffixes. The most fruitful primitives from the Saxon, Latin, and Greek are learned, and also the laws governing the formation of derivatives. Lectures are given on the history and changes of words, and daily exercises are intended to teach careful discrimination in their use.

*Third Year.*—One term is given to the study of Higher Rhetoric, embracing the principles of clear explanation and convincing argument, as well as the outlines of sound criticism. This is followed by a term spent in the history of the English language and literature, with abundant illustrations from the best authors.

Students are led in this way to appreciate the power of our mother tongue, and at the same time to gain some acquaintance with the best thoughts of the world. Students are encouraged and directed in the use of the College Library, and are under constant oversight in the expression of their thoughts in writing. Each class meets once a week for instruction and practice in elocution and composition. Original declamations, delivered before the students and Faculty, make a part of the drill in the higher classes.

In the course for young women, the first term of the fourth year gives training in the elements of criticism and good taste by a critical study of famous works in English and American literature.

**Text-Books.**—Swinton's Word Analysis, Welsh's Composition, Hill's Principles of Rhetoric, Kellogg's English Literature.

**Books of Reference.**—Various English grammars and rhetorics, several histories, manuals, and dictionaries of literature, Marsh's Lectures, Whitney's Life and Growth of Language, De Vere's Studies in English, French's works, Baldwin's, Morley's, and Müller's works, Duychink's Cyclopedia of American Literature, Stedman's Library of American Literature, Chambers's Cyclopedia of English Literature, Alden's Cyclopedia of Universal Literature, English Men of Letters, and many works of standard literature.

**History and Constitutional Law.**—General History is studied

during the fall term of the third year. The text-book, Sheldon's *Studies in General History*, is supplemented by lectures on the progress of civilization, and the philosophy of history. Considerable attention is given to the various forms of government. The chief object of the course is to teach the student how to study history, and he is constantly urged, therefore, to form his own conclusions from the facts presented.

The winter term of the third year is given to Constitutional History and Civil Government. Every effort is made to avoid partisanship, and the students are encouraged to express their opinions freely. Johnston's "*The United States*" and Fiske's *Civil Government* are used as text-books, but considerable additional matter is given in lectures and much individual work required.

**BOOKS OF REFERENCE.**—The works of Bancroft, Winsor, McMaster, Von Holst, Bryce, Cooley, Woolsey, Lenormant and Chevalier, Rawlinson, Mommsen, Grote, Green, Guizot, Buckle, Draper, and others.

**Political Economy.**—The study of Political Economy, in a full term of the fourth year, gives a fair presentation of subjects connected with production, distribution, and consumption of wealth. While the instruction is given by lectures, each student is expected to provide himself with some standard text-book for daily reference. Pains is taken to compare conflicting views, and point out sources of information on all sides of vexed questions, without bias or prejudice. Each student is required to present at some time during the term an original paper upon some topic assigned by the instructor.

**BOOKS OF REFERENCE.**—The works of Adam Smith, Mill, Fawcett, Cairnes, Walker, Bowen, Carey, Thompson, Roscher, and many others.

**Logic and Philosophy.**—The art of reasoning correctly is aided by a study of systematic logic, both deductive and inductive. Special prominence is given to methods for exact observation and experiment, and correct principles of classification. The previous researches and experience of the students are made to illustrate these principles. Text-book, Jevons-Hill, *Elements of Logic*.

A short course in Psychology gives the general principles of intellectual and moral philosophy. Perception, understanding, memory, imagination, thought, feeling, and volition, are topics of explanation and analysis. Theories of right and wrong, and correct principles of action, are made the means of a clear understanding of the nature of government in various forms, with special attention to individual rights and duties. Hopkins's *Outline Study of Man* forms the basis of the course.

**BOOKS OF REFERENCE.**—Mill's, Jevons's and Fowler's *Logic*, Bascom's *Psychology*, Porter's *Human Intellect*, Fairchild's *Moral Philosophy*, Cousin's "*The True, the Beautiful, and the Good*," and the works of Spencer, Hamilton, and others.

**Industrial Arts.**—The training in these departments is designed to be systematic and complete in each, so that the student, following a

single line diligently through the four-years course, gains the essentials of a trade and a reasonable degree of skill. Those who wish only a general acquaintance with the arts can take shorter courses in several of them; but all are to select with a definite purpose. In the established course, young men are required to take the regular term in the carpenter shop, and on the farm and gardens, whatever the industrial chosen; young women are required to give one term to sewing, one to practice in the kitchen laboratory, and one in the dairy.

AGRICULTURE AND HORTICULTURE are required of young men as industrials during one term of the second year and one term of the third year. In these, practice is made to illustrate and emphasize the teaching, and cover essentially the same ground.

COOKING.—During the winter term, the young women who have lectures on Household Economy are required to cook one hour each day. They are taught various methods of making the substantial articles of food, as well as allowed to spend some time on the dainty dishes. During the term, they have practice in waiting on the table, in serving guests, and in arranging for evening companies, thus putting into immediate practice the lectures of each day.

During the fall term, any students who have passed the study of Household Economy may take cooking as an industrial, in which canning fruits, making preserves, jellies, pickles, mince-meat, desserts, cake and fancy breads form the principal part of the work.

DAIRYING.—During the spring term, daily instruction and practice in domestic dairying are given the young women of the second year by the Instructor in Household Economy. Here the regular daily work is supplemented by a short course of lectures intended to explain the best practice in the arts of butter- and cheese-making, and to give the reasons therefor. The following topics cover, in the main, the instruction given the class: Influences affecting the quality and quantity of milk; butter-making; creameries; "deep" and "shallow" setting systems; packing and preserving butter; the household and factory systems of cheese-making.

CARPENTRY.—Wood-work is required of all young men during one term of the first year. In the first term's work a definite graded series of tasks is given in joining, work to dimensions, and simple problems in construction and turning, with the proper use and care of common bench tools, through which each student is advanced according to ability. Practice is given later in general wood-work, carpentry, cabinet-making, turning, and pattern-making; and the advanced students may have work suited to their chosen line, with special problems of construction, and special training in the use and care of fine tools, including saw-filing. All work during industrial hours is laid out by the Superintendent, and belongs to the shop, except that fourth-year students are allowed to work from drawings of their own upon articles for their own use or profit. All students may be allowed the use of the

shop outside of the practice hours for work of their own, under direction of the Superintendent.

In iron-work, instruction is given in ordinary work—forging, filing, tempering, etc.

SEWING.—One term of sewing is required before the completion of the first year of study. During this term the work is carefully laid out by the Superintendent in a series of lessons, graded to the capabilities of each student. To more advanced students all ordinary forms of sewing with needle and machine are taught, and any student may furnish material, and work for her own advantage under direction of the Superintendent. Cutting and fitting by a straight-line system are taught, and the systems are furnished at wholesale rates. Fancy needle-work and knitting may be taken at certain stages of the course.

PRINTING.—Two courses are pursued in this art. In one the student is taught the use of the implements or tools used in typography; composition and imposition; correcting proof; technical terms; presses and their workings; and the general duties of a first-class workman. The other course of lessons embraces instruction in spelling, capitalization, syllabication, punctuation, proof-reading, and such other work as will make the student accurate and expert. Wilson's Punctuation is the text-book; but much of the instruction is oral—such as grows out of the every-day experience of the office.

Admirable drill is furnished by the *Industrialist* to all, but especially to those who take the full course. The printing which the departments of the College require gives to the advanced student a fair knowledge of the principles and practice of job-work.

*Books of Reference.*—MacKellar's American Printer, Harpel's Typograph, Ringwalt's Encyclopedia of Printing, DeVinne's The Invention of Printing, DeVinne's Printers' Price List, the *Inland Printer*, *American Art Printer*, *Superior Printer*, *Paper and Press*, *The American Book-maker*.

INSTRUMENTAL MUSIC.—Provision is made for giving instruction upon the piano, organ, orchestral and band instruments. A full course upon the organ or piano extends over four years, including harmony and composition; but the students may take lessons for a single term if they choose. The College furnishes the pianos and organs for daily practice, but the instruction is paid for at the usual rate, as given under "Expenses." Music may be the industrial for young women, unless some other is required in the course. Young men may take music in addition to their course, if able to keep up standing in classes.

Opportunity is given for students who are sufficiently advanced, to join in the weekly rehearsals of the College Orchestra on Wednesday, and the Cadet Band on Friday.

*Text-books.*—Plaidy's Technical Studies, Czerny, Duvernoy, Loeschorn; Recreations for Piano and Organ; selections from Haydn, Mozart, Beethoven, and others; Arban's School for Cornet, Cuisinuz, White, Wichti's Violinist, De Beriot, and the recognized school for any instru-

ment not included in the above; Marx's Harmony and Composition, Elementary Charts, Berloiz's Instrumentation.

**Vocal Music.**—All students are furnished instruction in vocal music free of charge, under the direction of the Faculty. Classes meet on Mondays and Wednesdays for advanced pupils, and for beginners on Tuesdays and Thursdays, at 1:30 P.M. The advanced class shares in the music of public exercises during the Commencement week. This study is taken up at the choice of the student, but regular attendance is required as at other classes until excuse is granted.

Arrangements for special voice culture may be made with the Professor in charge, on reasonable terms.

*Text-books.*—Scansion and Song, Brown's Prismatic Charts, Hatton, Concone, Marchesi, with selections from the opera and oratorio.

**Military Training.**—During the second year, a course of thirty-two lectures is given. These are designed to show how an army is organized, equipped and supplied, to explain some of the minor operations of war, to show the organization of the militia under the militia law of this State. Instruction is afforded, to such as desire it, in other military subjects.

To all who desire it, an opportunity is given for practice in the ordinary infantry drills, including the school of the soldier, company and battalion, and target practice, and in artillery (foot battery) drill. Although drill is thus made optional, students are not allowed to take it for periods shorter than one term. To obtain a proper proficiency, however, one should take the semi-weekly drill for at least a year.

The college battalion is divided into companies, which are officered by students appointed each term by the Professor in charge, with the approval of the President.

Arms and accoutrements are furnished by the United States Government, the students being required to keep such as they use in proper condition. Uniforms for use in drill are furnished by the College.

#### EXAMINATIONS.

Examinations for admission are held at the beginning of each term, as laid down in the calendar of the College year. Applicants, to enter at any time during the term, shall have special examinations. These examinations are chiefly written, and a standing of 70 per cent. is required to pass any study.

Examinations in the course are held as arranged by the Faculty. The results of these examinations are marked on a scale of 100, and combined with the average of the preceding daily exercise upon the same scale into a grade for report to the Secretary. But any student not present at three-fourths, at least, of the class exercises, receives, at such time as the teacher may name, a more extensive examination than the general one; and this examination alone decides the grade.

Averages of grades in the register are made by giving the final term

grade a value of two-thirds and previous grades a value of one-third. After each term examination during the first year of attendance, a report of advancement is made to parents; and any student, upon leaving College at the close of a term, may receive a certificate of standing.

The final grade and the term average must be at least 70 for passing any study; and any student who fails to pass in two studies of the course may drop back a year or withdraw from College.

After completing the studies of the first year, students are allowed special examination only upon recommendation of the Professor in charge, and by permission of the Faculty. Permission for examination in studies not pursued with a class must be obtained at least two months before the examination is held. All such examinations are held under the immediate supervision of the Professor in charge, and are thorough and exhaustive.

#### MEANS OF ILLUSTRATION.

AGRICULTURE.—One hundred and eighty-five acres of land used for farm purposes, with hundreds of plots under experiment in grain, grasses, and forage crops; and illustrating various methods of culture and rotation.

A barn 50 by 75 feet, expressly arranged for experimental uses; and connected with it a general-purpose barn, 48 by 96 feet, for grain, hay, horses, and cattle. Both buildings are of stone, and are provided with steam power and equipped with improved machinery for shelling, grinding, threshing, cutting for the silo, and steaming.

Two piggeries, one of ten pens for experimental uses, and one of six pens, with separate yards, for general purposes.

An implement house 22 by 50 feet, of two stories, and corn-cribs.

Shorthorn, Aberdeen-Angus, Hereford, and Jersey cattle; Berkshire and Poland-China swine.

Farm implements of improved patterns.

Collections of grains, grasses, and forage plants.

Buildings, stock and equipments are valued at \$26,000.

HORTICULTURE AND ENTOMOLOGY.—Orchards containing 200 varieties of apples, 30 of peaches, 30 of pears, 20 of plums, 30 of cherries, and 5 of apricots.

Small-fruit garden, with 200 varieties of small fruit, including blackberries, raspberries, gooseberries, currants, and strawberries; and vineyard, with 100 varieties of grapes.

Forest plantation of twelve acres, containing twenty varieties of from one to twenty years' growth.

Ornamental grounds, set with a variety of evergreens and deciduous trees. Sample rows, containing about 150 varieties of ornamental and useful shrubs and trees, labeled.

Vegetable garden, with hot-beds and cold-frames, and experimental

beds. Practice rows for students' budding, grafting, cultivating, and pruning.

Two well-planned and furnished green-houses of three rooms each, stocked with a collection of native and exotic plants.

Museum, containing a collection of woods from American forests, and a large series of specimens in economic and general entomology.

Value of property, exclusive of orchards and grounds, \$13,000.

CHEMISTRY AND MINERALOGY.—Eight rooms, fitted with tables and apparatus for a class of eighty students in qualitative analysis, sixteen in quantitative analysis, including necessary facilities for assaying, with a mineralogical collection and general illustrative apparatus. Value, exclusive of building, \$8,000.

BOTANY.—A general herbarium, consisting of a large collection of plants of the United States and other countries; a Kansas herbarium, containing specimens illustrating the distribution and variation of plants throughout the State; also twenty-eight compound microscopes, four dissecting microscopes, tools, reagents, wall-charts, etc. Valued at \$3,000.

GEOLOGY, ZOOLOGY, AND VETERINARY SCIENCE.—A general museum well fitted with cases containing valuable collections of mounted Kansas mammals and birds, with mounted skeletons of wild and domestic animals. The largest collection of Kansas fishes and mollusks in the State. Kansas reptiles and batrachians, salt-water fishes and invertebrates in alcohol. Collections of Mound-builders' and Indian relics. Kansas fossils and rocks, typical of the geological ages found in the State.

In Veterinary Science: A laboratory fitted with apparatus and reagents, for the study of disease. A collection of charts, models, and anatomical preparations, illustrating healthy and diseased structure. Value, including general museum, \$4,500.

DRAWING.—Models, plaster-casts, patterns, charts, easels, and implements. Valued at \$1,400.

PHYSICS.—Physical apparatus, meteorological instruments, etc. Edelman's dynamo electric machine, Thompson's potential galvanometer, Coulomb's torsion balance, with numerous accessories, sling psychrometer, and anemometer. The value of the whole is \$4,000.

MATHEMATICS AND SURVEYING.—Transits, plane-table, compasses, levels, chains, models, etc. Valued at \$1,250.

MECHANICS AND ENGINEERING.—Carpenter shop, with separate benches and tools for forty-five students in each class, besides lathes, mortising machine, circular saws, band saws, planer, friezer, boring machine, grinder, and general chest of tools for fine work. Power furnished by a ten-horse-power Atlas engine.

Shops for iron work, with forges, vises, drills, lathes, etc. Testing machine, charts, and models.

Inventory of material and apparatus in both shops, \$8,300.

KITCHEN LABORATORY, with ranges, cooking utensils, dining-room furnishings, dairy furniture. Valued at \$600.



PRINTING.—Office with thirty pairs of cases, large fonts of six-point, eight-point, ten-point, and eleven-point Roman type; a good assortment of job type and brass rule; a Babcock cylinder press with steam power, a new Liberty quarto-medium job press, a Gordon eighth-medium job press; a mitring machine, a rule-curving machine, and a paper cutter. Value of equipment, \$4,800.

SEWING ROOMS, with seven machines, models, patterns, and cases; worth, \$600.

MUSIO ROOMS, with four pianos, four organs, and other instruments; valued at \$2,000.

A LIBRARY, carefully selected and catalogued, containing over 11,000 bound volumes, and 3,000 pamphlets. A reading-room is maintained in connection with the library, where may be found on file forty-five of the leading literary, scientific, technical, and agricultural periodicals, and several hundred newspapers, including the principal daily and weekly papers from all parts of the State. Value of Library, \$20,000.

ARMORY, containing one hundred and fifty stands of arms (breech-loading cadet rifles, caliber .45), with accoutrements; two three-inch rifled guns; also swords, uniforms, etc. Value, exclusive of arms, \$1,000.

#### GROUND S AND BUILDINGS.

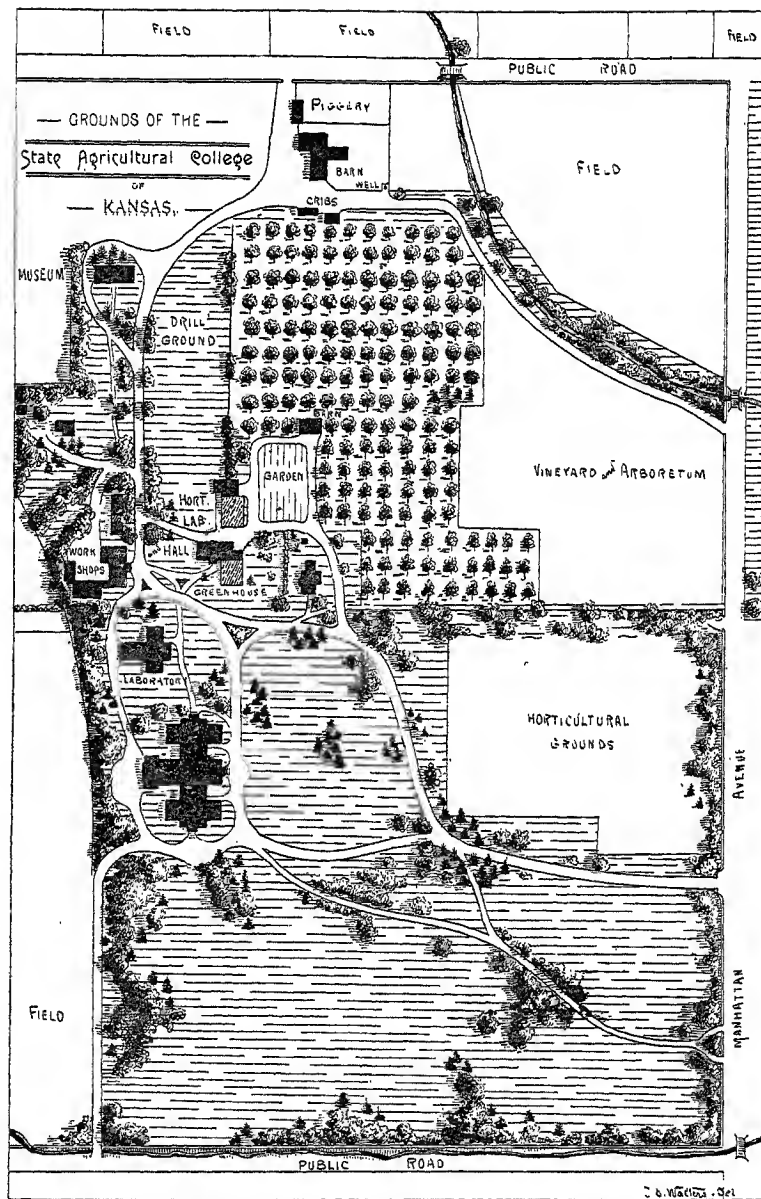
The College grounds and buildings, occupying an elevation at the western limits of the city of Manhattan, and facing towards the city, are beautiful in location. The grounds include an irregular plot in the midst of a fine farm, with orchard, vineyard, and sample gardens attached, the whole being surrounded by durable stone walls. The grounds are tastefully laid out and extensively planted according to the design of a professional landscape gardener, while well-graveled drives and good walks lead to the various buildings. All of these are of the famed Manhattan limestone, of simple but neat styles of architecture, and admirably suited to their use. All recitation rooms are excellently lighted and ventilated, and all are heated by steam or hot water. The buildings stand as indicated in the plot accompanying the following description:

College, 152 by 250 feet in extreme dimensions, arranged in three distinct structures, with connecting corridors. This building contains, in its two stories and basement, offices, reception room, cloak-rooms, studies, chapel, library, reading-room, kitchen laboratory and dairy, sewing-room, society-rooms, telegraph office, and twelve class-rooms.

Chemical Laboratory, one story, 26 by 90 and 46 by 75 feet of floor space, in form of a cross. It contains eight rooms, occupied by the Department of Chemistry and Mineralogy.

Mechanics' Hall, 39 by 103 feet, two stories, and 40 by 80 feet, one story, occupied by Wood and Iron Shops, Printing Office, and Music Rooms.

Horticultural Hall, 32 by 80 feet, one story and cellar, having cabinet-room, class-room, and storage, with green-house attached.



Horticultural and Entomological Laboratory, with propagating houses attached.

Two stone dwellings, occupied by the President and the Professor of Agriculture.

Museum Building, 46 by 96 feet, and two stories. This building, which has served many purposes, is now fitted for an armory, drill-room and Veterinary laboratory below, and for class-room and laboratory for Department of Botany and Museum of Natural History above.

The Farm Barn is a double but connected stone structure, 50 by 75 feet and 48 by 96 feet, with an addition of sheds and experimental pens 40 by 50 feet. A basement, having stables for seventy-five head of cattle, silos, engine-room, and granaries, underlies the entire structure.

The Horticultural Barn is a stone building, containing store-room, granary, and stables for several horses.

The blacksmith shop, lumber house, implement house, piggery and various out-buildings are of wood.

#### TERMS OF ADMISSION.

Applicants for admission at the beginning of the College year must be at least fourteen years of age, and able to pass a satisfactory examination in reading, spelling, writing, arithmetic, geography, English grammar, and United States History. Those applying later in the year must show sufficient advancement to enter the classes already in progress. Every effort should be made to begin with the first day of a term, in order to advance with the classes from the first.

The following diplomas and certificates will be received in lieu of entrance examinations:

1st. Diplomas received on the completion of a county course of study which has been approved by the Faculty, when properly signed by the county superintendent.

2d. Certificates of passing the grammar grade in any city school with a course of study approved by the Faculty, when properly signed by the city superintendent.

3d. Kansas teachers' certificates issued by the county board of examiners, showing that the above-named studies have been passed with a grade of at least 70 per cent.

The Faculty have approved of the following courses of study, but others may be submitted for approval at any time:

Allen,	Elk,	Marshall,	Rice,
Anderson,	Ellis,	Marion,	Riley,
Barber,	Geary,	McPherson,	Rooks,
Brown,	Greenwood,	Mitchell,	Rush,
Bourbon,	Harper,	Montgomery,	Russell.
Butler,	Harvey,	Nemaha,	Shawnee,
Chase,	Jackson,	Neosho,	Sumner,
Cherokee,	Jefferson,	Osage,	Wabaunsee,
Clay,	Jewell,	Osborne,	Washington,
Cloud,	Johnson,	Ottawa,	Wilson,
Cowley,	Kingman,	Republic,	Woodson,
Dickinson,	Leavenworth,	Reno,	Wyandotte.
Doniphan,	Linn,		

## CITIES.

Ablene,	Concordia,	Kanopolis,	Osborne,
Anthony,	El Dorado,	Kansas City,	Oswego,
Arkansas City,	Emporia,	Kingman,	Ottawa,
Atchison,	Eureka,	Larned,	Paola,
Augusta,	Fort Scott,	Lawrence,	Parsons,
Beloit,	Girard,	Leavenworth,	Salina,
Burlington,	Great Bend,	Lyons,	Seneca,
Caldwell,	Hiawatha,	Manhattan,	Solomon City,
Chanute,	Holton,	McPherson,	Topeka,
Cherryvale,	Horton,	Minneapolis,	Washington,
Chetopa,	Hutchinson,	Newton,	Wellington,
Clay Center,	Independence,	Olathe,	Winfield,
Clifton,	Junction City,	Osage City,	Wichita.
Coffeyville,			

Applicants of mature age who, for lack of advantages, are unable to pass the full examination, may be received on special conditions.

Applicants for advanced standing in the course must pass examination in all the previous studies of the class to be entered; but, if they have pursued such studies in other institutions of similar rank, they may receive credit for their standing in those institutions upon presenting a certificate from the proper officer, showing that their course has been equivalent to that given here.

The questions on pp. 46-48 may serve as samples of the examinations for admission.

## GRAMMAR.

1. Define grammar, analysis, parts of speech, parsing.
2. Name and define the elements of the sentence.
3. Classify sentences, and write a sentence of each class.
4. Define infinitives, participles. Give an example of each.
5. What is an adjective clause? An adverb clause? A noun clause? Show by sentences the use of each.
6. Give the subdivisions and the modifications, or properties, of the pronoun.
7. Name and illustrate the constructions in which a noun is in the nominative case. In the objective case.
8. Explain agreement of the verb, and give sentences to illustrate.
9. Analyze or diagram:—"When I reflect upon the influence of a mother, of a pure, educated, Christian woman, I no longer doubt."
10. Parse italicized words:  
*"Burned Marmion's swarthy cheek like fire,  
 And shook his very frame for tre."*

## ARITHMETIC.

1. Find the L. C. M. and G. C. D. of 724 and 896.
2. Find the cost of 8,462 lbs. of hay, at \$9.50 a ton.
3. A field containing 18 acres is 80 rods long. Find the cost of fencing it at \$1.25 a rod.
4. A merchant sells a wagon for \$161, and gains 15 per cent. How much did he gain?

5. If copper is mixed with 20 per cent. of its weight of nickel, what per cent. of the mixture is nickel?
6. Find the interest on \$960 from March 5, 1882, to September 25, 1888, at 7 per cent.
7. Which is the better, to buy flour at \$8 per barrel, on 6 months' credit, or at \$7.50, cash, money being worth 6 per cent.?
8. Which is the better investment, 5-per-cent. stock at 75, or 6-per-cent. stock at 80?
9. Find the cube root of .75 to three figures.
10. What will be the cost of a 90-day draft for \$5,000, if exchange is  $\frac{1}{4}$  per cent. discount, and money worth 6 per cent.?

GEOGRAPHY.

1. What is latitude? Longitude? A prime meridian? Explain the cause of winter and summer.
2. Name the grand divisions of the earth, and after each write the name of its principal mountain system and largest river.
3. Name and locate five lakes, five gulfs or bays, five rivers, of North America.
4. Draw a map of your native State, showing rivers, railroads, and important cities. What are its chief products?
5. Name, in their order, the States that border on the Atlantic Ocean, and give the capital of each.
6. What kind of a government has Mexico? Who are its people? What are its exports?
7. Locate the countries of South America. Give the principal exports of Argentine Republic, Brazil, and the West Indies.
8. Name eight countries of Europe, and give their capitals and forms of government. What causes the great emigration from Europe to America?
9. Bound India, the Chinese Empire, and Japan. Locate Egypt and Madagascar.
10. Trace the course of a vessel around the world, starting from New York and touching at five great ports.

UNITED STATES HISTORY.

1. Give a brief account of the first settlements in Virginia, New York, and Pennsylvania.
2. Name the wars in which colonies were engaged, and state briefly the cause and result of each.
3. (a) Describe three battles of the Revolutionary war. (b) What aid did France give to the United States during that war?
4. (a) Give the chief defects of the Articles of Confederation. (b) Give a history of the making of the Constitution.
5. Causes of the war of 1812? Describe Perry's battle on Lake Erie, and Jackson's battle of New Orleans.
6. Causes of the Mexican war? Date and terms of Treaty of Peace with Mexico.

7. Chief events of Jefferson's, Monroe's, and Buchanan's administration.
8. Name, describe, and give consequences of one battle in each year of the Civil War.
9. Give date of five important inventions, and state some of the effects of each.
10. Name five important events since the Civil War, and state why you consider each important.

#### GENERAL DUTIES AND PRIVILEGES.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week-day except Saturdays, and no student may be absent without excuse. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance, scholarship, and deportment shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and unnecessary absence from them is noted. On Sunday no services are held in the chapel, but students are urgently advised to attend the different churches of the city.

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical exercises of the third- and fourth-year classes. Once a week all the classes meet, in their class-rooms, for exercises in elocution and correct expression.

There are four prosperous literary societies which meet weekly, in rooms set apart for their use. The *Alpha Beta*, open to both sexes, and the *Ionian*, for ladies, meet Friday afternoon. The *Webster* and the *Hamilton* admit to membership gentlemen only; and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the fourth Friday evening of each month.

Branches of the College Y. M. C. A. and Y. W. C. A. hold weekly meetings at the College, and a union meeting on the first Friday evening of each month.

Once in each term the College Hall is opened for a social gathering of Faculty and students, in which music, literary exercises, and friendly greeting find place.

Public lectures by prominent men of the State are provided from time to time, as opportunity offers. All are free.



CHEMICAL LABORATORY ANALYTICAL ROOM.







DEPARTMENT OF INDUSTRIAL ART.





CARPENTER SHOP





KITCHEN LABORATORY.





PRINTING DEPARTMENT







SEWING DEPARTMENT.



#### LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their ability and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunities for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term-time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education if he has the ability to use his chances well.

#### EXPENSES.

Tuition is free, and no general fee for incidental or contingent expenses is charged. In a few special departments of instruction, the following payments are made in advance to the Secretary:

In the term of Analytical Chemistry, students pay \$3 for the chemicals and apparatus used in their laboratory practice and analysis.

In the Printing Office, young men in their first year pay \$3 a term for office expenses. Advanced students have the use of the office for the work performed during the industrial hours.

Young women are furnished Printing free of expense; this, with the

Sewing and Cooking Departments, being provided especially for their industrial training.

Lessons in instrumental music—two a week—are from \$10 to \$14 a term, according to its length; one a week, \$6 to \$8.40. In classes of two or more at a less rate. One-half is to be paid to the instructor in charge with the first lesson, the other half at the middle of the term.

The cost of text-books at the book-stores is, for the first year, about \$4 a term; for the second year, \$2.75 a term; for the third year, \$7 a term; and for the fourth year, \$5.50 a term.

The expenses for apparatus and tools to each student during the course are as follows: Drawing, \$3.50; microscope for Botany and Entomology, \$1.50; case, pins, etc., for Entomology, \$2.25. The total expense for these articles during the four years is less than ten dollars.

Board and washing are not furnished by the College. Board, with furnished rooms, can be procured in private families at from \$2.75 to \$4 per week. Some students board themselves at even less cost; and rooms for the purpose can be obtained at a rent of from \$1 to \$3.50 a month. Washing costs from 50c. to \$1 a dozen pieces.

Ordinary expenditures, aside from clothing and traveling expenses, range from \$100 to \$200 a year.

#### BUSINESS DIRECTIONS.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer, in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The *Industrialist* may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Kellerman, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed through the Secretary of the Council.

## Graduates.

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1867.

HENRY L. DENISON, A. M., Galveston, Texas. Secretary of Gulf Improvement Company.

BELLE M. HAINES *Pond*, A. M., Topeka, Kas. Housewife.

EMMA L. HAINES *Bowen*, A. M., Manhattan, Kas. Housewife.

JOHN J. POINTS, A. M., Omaha, Neb. Lawyer.

MARTHA A. WHITE *Abbott*, A. M., Chicago, Ill. Housewife.

1871.

EMILY M. CAMPBELL *Robinson*, A. B. Died in 1877.

ELLA F. DENISON *Whedon*, A. B., Lincoln, Neb. Housewife.

LUELLA M. HOUSTON, A. B., Concordia, Kas. Milliner and dressmaker.

CHARLES O. WHEDON, B. Sc., Lincoln, Neb. Lawyer.

KATE E. WHITE *Turley*, A. B., Chicago, Ill. Housewife.

1872.

THEOPHANIA M. HAINES *Huntington*, A. B. Died in 1880.

ALBERT TODD, A. M., Fort Riley, Kas. Lieutenant First U. S. Artillery.

S. WENDELL WILLISTON, A. M., M. D., Lawrence, Kansas. Professor of Paleontology and Director of the State University Geological Survey.

1873.

ELIZA Z. DAVIS *Stringfield*, A. B., Pomona, Cal. Housewife.

SAM KIMBLE, A. B., Manhattan, Kas. Lawyer.

1874.

HARRY A. BEOUS, A. M., M. D., Philadelphia, Pa. Physician.

EDGAR F. CLARK, A. B., Ellsworth, Kas. Lawyer.

JOHN E. DAVIS, B. Sc., D. D. S., Oakland, Cal. Dentist.

WILLIAM D. GILBERT, A. B., Atchison, Kas. Lawyer.

A. JUDSON WHITE, A. B., Atchison, Kas. Minister.

1875.

REUBEN E. LOFINOK, B. Sc., Manhattan, Kas. Merchant.

ALICE E. STEWART *Points*, A. M., Omaha, Neb. Housewife.

1876.

GEORGE A. GALE, A. B., Lake Worth, Fla. Fruit-grower.

ELLA M. GALE *Kedzie*, A. B., Olivet, Mich. Art instructor in Olivet College.

NELLIE SAWYER *Kedzie*, M.Sc., Manhattan, Kas. Professor of Household Economy and Hygiene in Kansas State Agricultural College.  
 CARRIE M. KIMBALL, A.B., Garden Grove, Cal. Art instructor.  
 MINERVA E. WHITMAN *Heiser*, A.B., Lyndon, Kas. Housewife.

1877.

ELLA S. CHILD, B.Sc., Manhattan, Kas. Teacher.  
 GEORGE H. FAILEYER, M.Sc., Manhattan, Kas. Professor of Chemistry in Kansas State Agricultural College.  
 JOHN S. GRIFFING, M.Sc., Topeka, Kas. Merchant.  
 WALTER C. HOWARD, B.Sc., Winnebago, Ill. Minister.  
 FREDERICK O. HOYT, B.Sc. Died in 1884.  
 LOUIS E. HUMPHREY, B.Sc., Chapman, Kas. Druggist.  
 JAMES F. LA TOURETTE, B.Sc., Wagon Mound, N. M. Stock-raiser.  
 MARION F. LEASURE, B.Sc., La Cygne, Kas. Lawyer.  
 WILLIAM ULRICH, M.Sc., Manhattan, Kas. Contractor and builder.

1878.

ALBERT N. GODFREY, M.Sc., Madison, Kas. Farmer and fruit-grower.  
 CHARLES S. McCONNELL, B.Sc. Printer.  
 GEO. S. PLATT, B.Sc. Died in 1878.  
 AMOS E. WILSON, B.Sc., McPherson, Kas. Banker.

1879.

ARTHUR T. BLAIN, B.Sc., Duarte, Cal. Nurseryman.  
 ETTA CAMPBELL *Blain*, B.Sc., Duarte, Cal. Housewife.  
 WILMER K. EOKMAN, B.Sc., Atchison, Kas. Lumber dealer.  
 CORVIN J. REED, B.Sc., St. Clere, Kas. Farmer.  
 HARRY C. RUSHMORE, B.Sc., Fort Payne, Ala. Merchant.  
 WILLIAM H. SIKES, B.Sc., Leonardville, Kas. Merchant and grain dealer.  
 LEWIS A. SALTER, B.Sc., Argonia, Kas. Merchant.  
 ELLA VINOENT *McCormick*, B.Sc., Clay Center, Kas. Bookkeeper.  
 CLARENCE E. WOOD, B.Sc., A.B., Denver, Colo. Printer.

1880.

AUGUSTINE BEACHAM, B.Sc., Seattle, Wash. Lawyer.  
 LIZZIE R. COX *Kregar*, B.Sc., Milford, Kas. Housewife.  
 EMMA HOYT *Turner*, B.Sc., St. Paul, Minn. Housewife.  
 EMMA KNOTSMAN *Huse*, B.Sc., Arkansas City, Kas. Housewife.  
 GRAOE PARKER *Perry*, B.Sc., Kiowa, Kas. Housewife.  
 NORLE A. RICHARDSON, B.Sc., San Bernardino, Cal. Superintendent of city schools.  
 MARIA E. SIOCKELS *Davis*, B.Sc., Chicago, Ill. Housewife.

1881.

FLORA DONALDSON *Reed*, B.Sc., St. Clere, Kas. Housewife.  
 ULYSSES G. HOUSTON, B.Sc., Manhattan, Kas. Inventor.  
 FLETCHER M. JEFFREY, B.Sc., Escondido, Cal. Lawyer.

WILLIAM J. JEFFREY, B.Sc., San Diego, Cal. Agent.  
 DARWIN S. LEACH, B.Sc., Georgetown, New Mexico. Superintendent  
 of city schools.

WILLIAM J. LIGHTFOOT, B.Sc., Manhattan, Kas. Civil engineer.  
 DALINDA MASON *Cotey*, B.Sc., Manhattan, Kas. Housewife.  
 WIRT S. MYERS, B.Sc., Tampa, Florida. Furniture manufacturer.

1882.

J. CHESTER ALLEN, B.Sc. Died in 1885.  
 IDA CHANFORD *Sloan*, B.Sc., Shasta county, Cal. Housewife.  
 EDWARD V. CRIPPS, B.Sc., Boston, Mass. Teacher of elocution.  
 WARREN KNAUS, M.Sc., McPherson, Kas. Editor and entomologist.  
 MATTIE E. MAILES *Coons*, B.Sc., Manhattan, Kas. Housewife.  
 ALLIE S. PECKHAM *Cordry*, B.Sc., Belleville, Kas. Housewife.  
 BELLE SELBY, B.Sc., New York. Teacher of Art.  
 BURTON L. SHORT, B.Sc., Kansas City, Kas. Clerk in Register of  
 Deeds office.  
 JOHN A. SLOAN, B.Sc., Shasta Co., Cal. Farmer and nurseryman.

1883.

JAMES W. BERRY, B.Sc., Jewell City, Kas. Farmer, contractor, and  
 builder.  
 MARY C. BOWER, B.Sc., Manhattan, Kas. Clerk.  
 LEWIS W. CALL, B.Sc., Washington, D. C. Clerk in Attorney Gen-  
 eral's office.  
 EMMA E. GLOSSOP, B.Sc., Manhattan, Kas. Teacher.  
 WILLIAM J. GRIFFING, B.Sc., Manhattan, Kas. Farmer and fruit-  
 grower.  
 PHEBE E. HAINES, M.Sc., Las Cruces, N. M. Professor of Industrial  
 Art in State Agricultural College.  
 HORTENSE L. HOUSTON, B.Sc., Concordia, Kas. Music teacher.  
 JACOB LUND, M.Sc., Sidney, Wash. Mechanical engineer.  
 KATIE I. MEGUIRE *Sheldon*, B.Sc., Riverside, Cal. Housewife.  
 J. DANA NEEDHAM, B.Sc., Lane, Kas. Merchant.  
 MILAN T. WARD, B.Sc., M. D., Orion, Ill. Physician.  
 JULIUS T. WILLARD, M.Sc., Manhattan, Kas. Assistant in Chemistry,  
 Experiment Station, Kansas State Agricultural College.

1884.

EMMETT S. ANDRESS, B.Sc., Lakin, Kas. Farmer and stock-raiser.  
 FLORENCE J. BROUS, B.Sc., Kansas City, Kas. Teacher.  
 BARTHOLOMEW BUOHLI, M.Sc., V. S. D., Paxico, Kas. Veterinary sur-  
 geon.  
 JOHN H. CALVIN, B.Sc., Topeka, Kas. Lawyer.  
 WM. A. COREY, B.Sc., Salt Lake City, Utah. Teacher.  
 HENRY M. COTTRELL, M.Sc. Assistant in Agriculture, Experiment  
 Station, Kansas State Agricultural College, Manhattan, Kas.  
 CARRIE F. DONALDSON *Brown*, B.Sc., Portland, Oregon. Housewife.

FLORENCE A. DONALDSON, B.Sc. Died in August, 1888.  
 FRANK W. DUNN, B.Sc., New Castle, Colo. Farmer and fruit-grower.  
 I. DAY GARDINER, B.Sc., Alma, Kas. Editor.  
 EDWIN H. KEEN, B.Sc., Mankato, Kas. Civil engineer and horticulturist.  
 MARION M. LEWIS, B.Sc., Nebraska City, Neb. Minister.  
 CHARLES L. MARLATT, M.Sc., Washington, D. C. Assistant in Entomological Division, U. S. Department of Agriculture.  
 LINCOLN H. NEISWENDER, B.Sc., Silver Lake, Kas. Farmer.  
 GEO. C. PECK, B.Sc., Junction City, Kas. Printer.  
 HATTIE L. PECK *Berry*, B.Sc., Jewell City, Kas. Housewife.  
 JOHN W. SHARTEL, B.Sc., Winfield, Kas. Lawyer.

1885.

THOMAS BASSLER, B.Sc., Louisiana, Mo. Nurseryman.  
 ALBERT DEITZ, B.Sc., Kansas City, Mo. Merchant.  
 GEORGE E. HOPPER, M.Sc., Manhattan, Kas. City Engineer and Superintendent of water works.  
 FLORENCE F. HOUGH, B.Sc., Melrose, Iowa. At home.  
 FRANK A. HUTTO, B.Sc., Stillwater, Ok. Lawyer.  
 ALLEN LEWIS, B.Sc., Topeka, Kas. Civil engineer.  
 NELLIE J. MURPHY, B.Sc., Idana, Kas. Teacher.  
 ARTHUR L. NOYES, B.Sc., Wabaunsee, Kas. Electrical engineer.  
 CLARENCE D. PRATT, B.Sc., Salt Lake City, Utah. Civil engineer.  
 ROLLIN R. REES, B.Sc., Minneapolis, Kas. Lawyer.  
 FREDERICK J. ROGERS, M.Sc., Ithaca, N. Y. Special student in Cornell University.  
 DOROTHY E. C. SEOREST *Hungerford*, B.Sc., Manhattan, Kas. Housewife.  
 GRACE WONSETLER, B.Sc., Verbeck, Kas. Teacher.  
 EFFIE E. WOODS *Shartel*, B.Sc., Winfield, Kas. Housewife.

1886.

LILLIE B. BRIDGEMAN, B.Sc., Kansas City, Kas. Teacher.  
 LOUIS P. BROUS, B.Sc., Eugene, Oregon. Draughtsman and topographical engineer.  
 PAUL H. FAIRCHILD, B.Sc., M. D., Brooklyn, N. Y. Physician.  
 ABBOTT M. GREEN, B.Sc., Santa Barbara, Cal. Civil engineer and teacher.  
 JAMES G. HARBORD, B. Sc., Fort Sherman, Idaho. Regimental quartermaster, Fourth U. S. Infantry.  
 JOHN U. HIGINBOTHAM, B.Sc., Chicago, Ill. Cashier wholesale house.  
 MARIA C. HOPPER *Getty*, B. Sc., Downs, Kas. Housewife.  
 E. ADA LITTLE, B.Sc., Manhattan, Kas. Assistant in sewing, and post-graduate student, State Agricultural College.  
 FRANK L. PARKER, B.Sc., Pueblo, Col. Telegraph operator.  
 EDWARD H. PERRY, B. Sc., Topeka, Kas. Real-estate agent.  
 H. AUGUSTUS PLATT, B.Sc., Coronado, Kas. Farmer and County Clerk.



ADA H. QUINBY *Perry*, B. Sc., Topeka, Kas. Housewife.  
 IDA H. QUINBY *Gardiner*, B. Sc., Alma, Kas. Housewife.  
 MINNIE REED, B. Sc., Argentine, Kas. Teacher.  
 DAVID G. ROBERTSON, B. Sc., Osborne, Kas. Lawyer.  
 EDWARD O. SISSON, B. Sc., Monnd City, Kas. Snperintendent of schools.  
 JOHN W. VAN DEVENTER, B. Sc., Imperial, Neb. Editor.  
 GEORGE W. WATERS, B. Sc., Riley, Kas. Mail-route agent.  
 WILLIAM E. WHALEY, B. Sc., Manhattan, Kas. Superintendent of city schools.  
 F. HENRIETTA WILLARD *Calvin*, B. Sc., Topeka, Kas. Housewife.  
 JOHN L. WISE, B. Sc., Smithboro, Ill. Merchant.

1887.

EDGAR A. ALLEN, B. Sc., Chicago, Ill. Teacher and law student.  
 FRED. H. AVERY, B. Sc., Wakefield, Kas. Farmer and horse-breeder.  
 CLAUDE M. BREESE, M. Sc., Manhattan, Kas. Assistant in Chemistry, Kansas State Agriculntural College.  
 JOHN B. BROWN, B. Sc., Nashville, Tenn. Observer, U. S. Signal Service.  
 WALTER J. G. BURTIS, B. Sc., Fredonia. Farmer and teacher.  
 MARK A. CARLETON, B. Sc., Wichita, Kas. Professor of Natural History, Garfield University.  
 NELLIE E. COTTRELL *Stiles*, B. Sc., Pavilion, Kas. Housewife.  
 BERT R. ELLIOTT, B. Sc., Nederland, Colo. At work on a ranch.  
 FREDERICK B. ELLIOTT, B. Sc., Manhattan, Kas. Clerk in land and loan office.  
 CLARA M. KEYES, B. Sc., Banner, Cal. Teacher.  
 FRED. G. KIMBALL, B. Sc., Garden Grove, Cal. Carpenter.  
 FREDERICK A. MARLATT, B. Sc., Manhattan, Kas. Assistant in Entomology, Experiment Station, Kansas State Agricultural College.  
 WILLIAM J. McLAUGHLIN, B. Sc., Centralia, Kas. Farmer and civil engineer.  
 MARY E. MOSES, B. Sc., Manhattan, Kas. At home.  
 CHARLES A. MURPHY, B. Sc., Argentine, Kas. Teacher.  
 ORLANDO G. PALMER, B. Sc., Washington, D. C. Clerk Censns Bureau.  
 LOUIS B. PARKER, B. Sc. Died in June, 1889.  
 JAMES E. PAYNE, B. Sc. Student of horticulture, Mississippi State Agricultural College.  
 SEWARD N. PECK, B. Sc., Topeka, Kas. Mechanic in Santa Fé railroad shops.  
 GEORGE N. THOMPSON, B. Sc., Belmond, Iowa. Carpenter.  
 WILLIS M. WRIGHT, B. Sc., Lake Arthur, La. Farmer.

1888.

GRANT ARNOLD, B. Sc., Toledo, Wash. Teacher.  
 BERTHA H. BACHELLER, B. Sc., Manhattan, Kas. Student instructor in Kansas State Agricultural College.

CLEMENT G. CLARKE, B.Sc., New Haven, Conn. Student in Yale University.

ALEXANDER C. COBB, B.Sc., Wagoner, Ind. Ter. Farmer and carpenter.

MATTIE COBB, B.Sc., Wagoner, Ind. Ter. Teacher.

MINNIE H. COWELL, B.Sc., Hempstead Road, London, Eng. Hospital nurse.

LYMAN H. DIXON, B.Sc., Bent Cañon, Col. Draughtsman.

DAVID G. FAIRCHILD, B.Sc., Washington, D. C. Assistant in Division of Vegetable Pathology, U. S. Department of Agriculture.

CARL E. FRIEND, B.Sc., Ontario, Kas. Lumber merchant.

JOHN R. HARRISON, B.Sc., Salina, Kas. Mail-route agent.

HUMPHREY W. JONES, B.Sc., Americus, Kas. Superintendent of schools.

NATHAN E. LEWIS, B.Sc., Hamilton, Ohio. Draughtsman.

ARBIE L. MARLATT, M.Sc., Logan, Utah. Instructor in Domestic Economy, State Agricultural College.

WILLIAM C. MOORE, B.Sc., Junction City, Kas. Editor.

ERNEST F. NICHOLS, B.Sc., Ithaca, N. Y. Special student in Cornell University.

HARRY E. ROBB, B.Sc., Neal, Kas. Farmer.

ANNA SNYDER, B.Sc., Oskaloosa, Kas. At home.

EDWIN H. SNYDER, B.Sc., Highlands, Col. Editor.

OLIVER L. UTTER, B.Sc. Student in State Normal School.

AARON WALTERS, B.Sc. Student of law, Golden, Col.

LORA L. WATERS, B.Sc., Junction City, Kas. Teacher.

DANIEL W. WORKING, JR., B.Sc., Denver, Col. Editor of Colorado Fancier and Farm Herald.

#### 1889.

EMMA A. ALLEN, B.Sc., Manhattan, Kas. Student Assistant in Experiment Station, Botany.

JOSEPH W. BAYLES, B.Sc., Riley, Kas. Teacher.

WALTER R. BROWNING, B.Sc., Hamlin, Kas. Civil engineer.

DAVID E. BUNDY, B.Sc., Blue Rapids, Kas. Farmer.

SAMUEL S. CORE, B.Sc., Wagoner, I. T. Druggist and postmaster.

JUDSON H. CRISWELL, B.Sc., Manhattan, Kas. Farmer.

MATTIE I. FARLEY *Carr*, B.Sc., Ruby, Wash. Housewife.

CLARENCE E. FREEMAN, B.Sc., North Topeka, Kas. Principal of Shorey school.

HATTIE L. GALE *Sanders*, B.Sc., Lake Worth, Fla. Housewife.

JOHN S. HAZEN, B.Sc., Fort Apache, Ariz. U. S. Signal Service observer.

ALBERT B. KIMBALL, B.Sc., Manhattan, Kas. Post-graduate student in entomology and horticulture, Kansas State Agricultural College.

WILLIAM KNARR, B.Sc., Hiawatha, Kas. Bank clerk.

MARY C. LEE, B.Sc., Manhattan, Kas. Teacher.

ALONZO A. MILLS, B.Sc., Logan, Utah. Assistant to the Director, Agricultural Experiment Station, Utah.

SUSAN W. NICHOLS, B.Sc., St. Joseph, Mo. Music teacher.

WALTER H. OLIN, B.Sc., Waverly, Kas. Principal of school.  
 ELI M. PADDLEFORD, B.Sc., Riley, Kas. Principal of school.  
 MAUDE F. SAYRES, B.Sc., Ottawa, Kas. At home.  
 FLORINE SEOREST, B.Sc., San José, Cal. Teacher.  
 STANLEY SNYDER, B.Sc., Oskaloosa, Kas. Farmer.  
 CHARLES W. THOMPSON, B.Sc., Edwardsville, Kas. Student of dentistry.  
 JANE C. TUNNELL, B.Sc., Manhattan, Kas. Assistant Librarian, Kansas State Agricultural College.  
 INA M. TURNER, B.Sc., Topeka, Kas. Printer.  
 ROBERT U. WALDRIVEN, B.Sc., Parallel, Kas. Teacher and farmer.  
 HENRY S. WILLARD, B.Sc., Manhattan, Kas. Student of medicine.

1890.

SAMUEL I. BORTON, B.Sc., Hilltop, Kas. Farmer.  
 FRANK A. CAMPBELL, B.Sc., Highlands, Col. Newspaper reporter.  
 ARTHUR F. CRANSTON, B.Sc., Parsons, Kas. Student of Law.  
 JOHN DAVIS, B.Sc., Walcott, Ind. Teacher.  
 GRANT W. DEWEY, B.Sc., Manhattan, Kas. Photographer.  
 CHARLES J. DOBBS, B.Sc., Topeka, Kas. Student of law.  
 CHARLES W. EARLE, B.Sc., Denver, Col. Advertising agent.  
 SCHUYLER C. HARNER, B.Sc., Leonardville, Kas. Teacher.  
 JOHN W. IJAMS, B.Sc., Ozawie, Kas. Farmer.  
 BERTHA S. KIMBALL, B.Sc., Manhattan, Kas. Post-graduate student in botany and entomology, Kansas State Agricultural College.  
 HARRIET E. KNIPE, B.Sc., Manhattan, Kas. Post-graduate student in domestic economy, Kansas State Agricultural College.  
 NELLIE P. LITTLE, B.Sc., Manhattan, Kas. Teacher.  
 ELLSWORTH THOMAS MARTIN, B.Sc., Georgetown, Col. Miner and solicitor.  
 SILAS C. MASON, B.Sc., Manhattan, Kas. Assistant in Horticulture, Experiment Station, Kansas State Agricultural College.  
 WILTON L. MORSE, B.Sc., Maneos, Col. Teacher.  
 ALBERT E. NEWMAN, B.Sc., Lashnet, Kas. Farmer.  
 JULIA R. PEARCE, B.Sc., Manhattan, Kas. Clerk in executive offices.  
 EMIL C. PFEUTZE, B.Sc., Manhattan, Kas. Engineer of Manhattan water works.  
 WILLIAM H. SANDERS, B.Sc., Lake Worth, Fla. Teacher.  
 EMMA SEOREST, B.Sc., Riley, Kas. Teacher.  
 MARY B. SENN, B.Sc., Enterprise, Kas. Teacher.  
 RALPH SNYDER, B.Sc., Oskaloosa, Kas. Farmer.  
 GEORGE E. STOKER, B.Sc., Topeka, Kas. Clerk in Santa Fé general offices.  
 WALTER T. SWINGLE, B.Sc., Washington, D. C. Assistant in Division of Vegetable Pathology, Department of Agriculture, Washington, D. C.  
 GILBERT J. VAN ZILE, B.Sc., Georgetown, Col. Miner and solicitor.  
 HARRY N. WHITFORD, B.Sc., Manhattan, Kas. Teacher.  
 THOMAS E. WIMER, B.Sc., died in June, 1890.

## SUMMARY.

During the twenty-eight years of its existence the College has received over three thousand students, about a third of whom were young women. Most of them have come from farmers' homes, and after from three months to three years of study, have gone back to such homes without graduation.

The number of graduates up to 1890 is 232, of whom 73 are women. Graduates previous to 1877 pursued, with two exceptions, a classical course, and received the degree of Bachelor of Arts. Since 1877, all have received the degree of Bachelor of Science after a four-years course in the sciences, with good English training.

Of the 159 men, 5 are deceased, and the remainder are reported in the following occupations:

Farmers.....	24
Fruit-growers and nurserymen .....	8
Stock-raisers.....	3
Assistants in agricultural experiment stations.....	5
Assistants in U. S. Department of Agriculture.....	3
Editor of agricultural paper.....	1
Teachers and students of special sciences.....	9
Veterinary surgeon.....	1
Mechanics .....	5
Civil, electrical, and mechanical engineers.....	14
Contractors and builders.....	2
Architects and draughtsmen.....	3
General business men.....	16
Merchants .....	8
Printers .....	3
Photographer.....	1
Superintendents of public schools .....	7
Teachers of public schools .....	15
Students in other institutions .....	2
Officers in Army.....	2
Observers in Weather Service.....	2
Physicians and students of medicine.....	4
Druggists .....	2
Dentists.....	2
Editors.....	5
Ministers .....	3
Lawyers and students of law .....	17
Officials and official clerks.....	4
Total.....	171
In two occupations.....	17

Of the 73 women, 3 are deceased, and the remainder are occupied as follows:

Housewives.....	31
At home.....	4
Teachers in public schools.....	15
Teachers and students of special sciences.....	8
Teachers of music....	2
Teachers of art.....	3
Clerks or stenographers.....	3
Printer.....	1
Milliner and dressmaker.....	1
Assistant librarian.....	1
Hospital nurse.....	1
Total.....	70



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## CALENDAR.

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1891-92.

FALL TERM: September 10th to December 18th.

WINTER TERM: January 5th to March 25th.

SPRING TERM: March 28th to June 8th.

June 8th, Commencement.

1892-93.

FALL TERM: September 8th to December 16th.